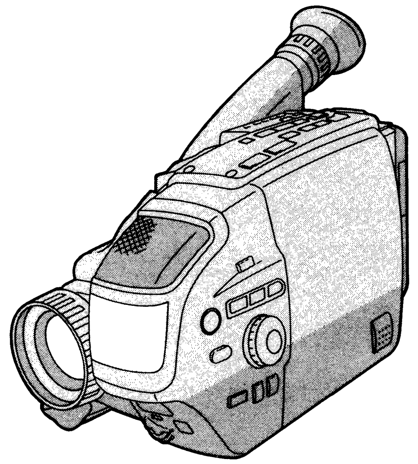
JVC

SERVICE MANUAL

VHS VIDEO MOVIE

GR-AX75EG/EK



Compact VHS

videomovie

VHS C

PAL

SPECIFICATIONS *(The specifications shown pertain specifically to the model GR-AX75EG)*

Format : VHS PAL standard
Power source : DC 6 V ⎓
Power consumption : 7 W (Light off)
10 W (Light on)
Signal system : PAL-type
Video recording system : Luminance: FM recording
Color: Converted sub-carrier direct recording
Conforms to VHS standard
Cassette : VHS C cassette
Tape speed (SP) : 23.39 mm/sec
Recording rime
Max. (SP) : 45 minutes (with EC-45 cassette)

VIDEO

Output : 1 Vp-p, 75 ohms, unbalanced
(via AV OUT connector)

AUDIO

Output : –6 dBs, 1 k-ohm (via AV OUT connector).

CAMERA

Pick up : 1/3"-format CCD
Minimum required illumination : 4 lux (F1.8)
Illumination range : 4 to 100,000 lux
Lens : F1.8, f = 6 to 60 mm, 10:1 power zoom lens with auto iris and macro control, filter diameter 43 mm
Viewfinder : Electronic viewfinder with 0.6" black/white CRT
Selectable high-speed shutter : Switchable (1/50,1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000 second)
White balance adjustment : Auto/Manual

GENERAL

Operating temperature : 0°C to +40°C
Operating humidity : 35% to 80%
Storage temperature : –20°C to +50°C
Weight : Approx. 720 g
Dimensions : 184(W) x 120(H) x 111(D) mm (incl. viewfinder)

AC POWER ADAPTER/BATTERY CHARGER (AA-V11EG) SPECIFICATIONS

Power requirement : AC 110 to 240 V∿, 50/60 Hz
Power consumption: 23 W
Output : DC 8.5 V ⎓, 1.3 A (CHARGE),
DC 6.3 V ⎓, 1.8 A (VTR)
Charging system : Constant current, peak detection, timer controlled
Dimensions : 150(W) x 42(H) x 68(D) mm
Weight : Approx. 350 g

CASSETTE ADAPTER (C-P6U) SPECIFICATIONS

Dimensions : 188(W) x 25(H) x 104(D) mm
Weight : Approx. 240 g
Accessory : "R6"-size battery x 1

PROVIDEO ACCESSORIES

AC power adapter/battery charger	AA-V11EG
Battery pack	BN-V12U
A/V output cable	
Cable adapter	
Lithium battery	CR2025
Remote control unit	RM-V704U
Cassette adapter	C-P6U
Shoulder strap	VU-V220U

E. & O. E. Design and specifications subject to change without notice.

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September 1993

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

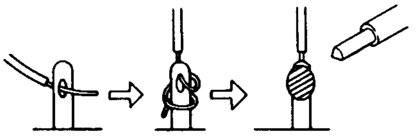


Fig. 1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

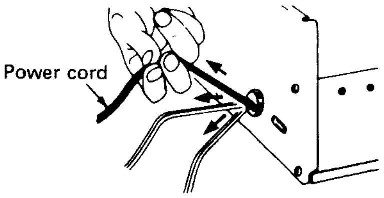


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

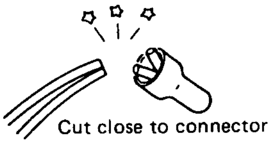


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

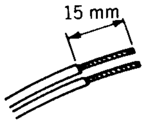


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

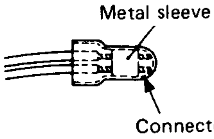


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

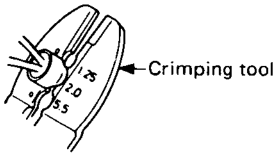


Fig. 6

(5) Check the four points noted in Fig. 7.

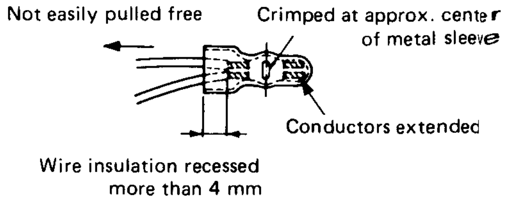

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig. 7

●Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

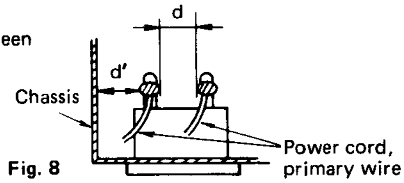


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method: (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

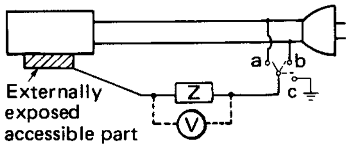


Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

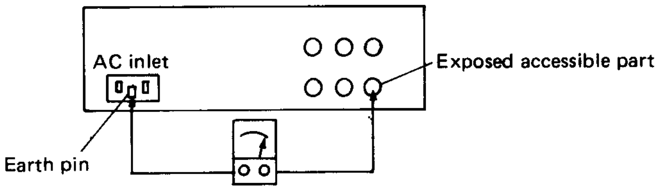


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ /500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

JVC

INSTRUCTIONS

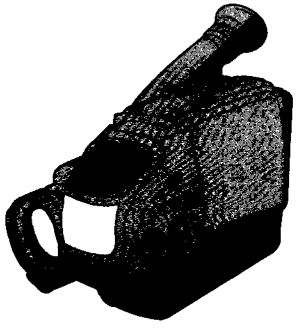
GR-AX75

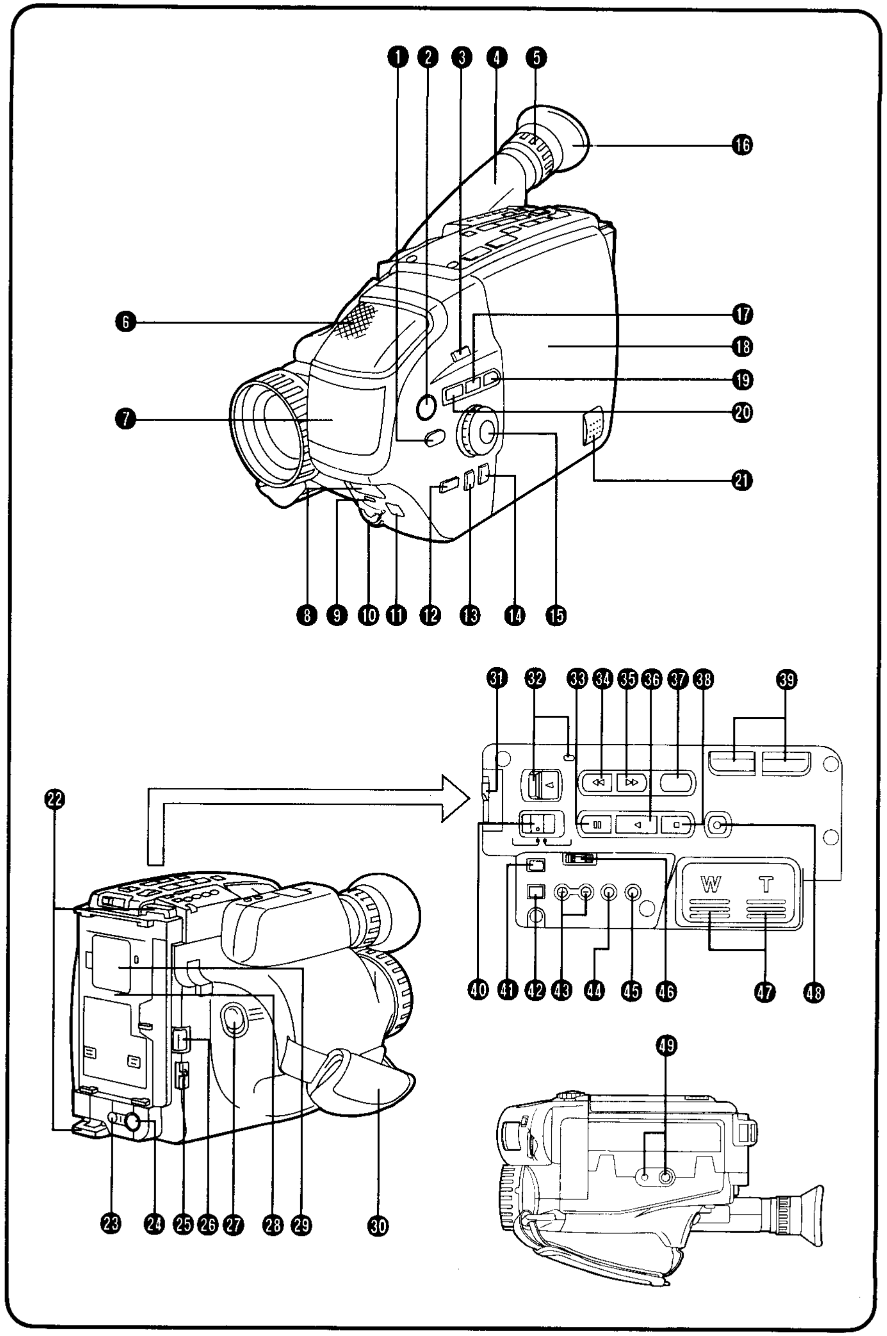
CAMERA-RECORDER/PLAYER

MANUEL D'INSTRUCTIONS: CAMERA-ENREGISTREUR LECTEUR
BEDIENUNGSANLEITUNG: KAMERA-RECORDER
MANUAL DE INSTRUCCIONES: CAMARA DE VIDEO
GEBRUIKSAANWIJZING: KAMERA RECORDER
BRUKSANVISNING: KAMERA/BANDSPELARE
MANUALE DI ISTRUZIONI: TELECAMERA REGISTRATORE
INSTRUKTIONSBOG: VIDEOKAMERA
KÄYTTÖOHJEET: KAMERANAUHURI

Specifically for the GR-AX75EG/AA-V11EG
Spécial pour le GR-AX75EG/AA-V11EG
Für modellausführung GR-AX75EG/AA-V11EG
Especialmente para la GR-AX75EG/AA-V11EG
Speciaal voor de GR-AX75EG/AA-V11EG
Speciellt avsedd för GR-AX75EG/AA-V11EG
Specifico per il GR-AX75EG/AA-V11EG
Specielt for GR-AX75EG/AA-V11EG
Erityisesti malleille GR-AX75EG/AA-V11EG

Compact VHS
videomovie
VHS C
PAL

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YU30052-378

SAFETY PRECAUTIONS

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

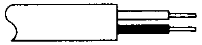
The AA-V11EG AC Power Adapter/Battery Charger should be used with 110 — 240 V∿, 50/60 Hz only.

Caution:
To prevent electric shocks and fire hazards, do NOT use any other power source.

IMPORTANT (In the United Kingdom) Mains Supply (240 V∿, 50 Hz only)

IMPORTANT

Do not make any connection to the Larger Terminal coded E or Green. The wires in the mains lead are coloured in accordance with following code:



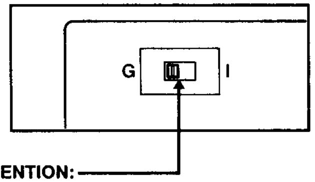
If these colours do not correspond with the terminal identifications of your plug, connect as follows:
Blue wire to terminal coded N (Neutral) or coloured black.
Brown wire to terminal coded L (Live) or coloured Red.
If in doubt — consult a competent electrician.

Note
We recommend that you should disconnect the AC cord from the outlet.

- VideoMovie is designed exclusively for the VHS-C video cassette. Only cassettes marked VHS-C can be used with this unit.
- HQ VHS is compatible with existing VHS equipment.

Warning on lithium battery
The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate.
Replace battery with Panasonic (Matsushita Electric) CR2025; use of another battery may present a risk of fire or explosion.

- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of in fire.



ATTENTION:
The system select switch on the side of the optional RF-V4E RF unit has been set to G (Continental PAL, 5.5 MHz).

CAUTION:
To prevent shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified personnel.

NOTES:

- The rating plate (serial number plate) and safety caution are on the bottom and/or the back of the main unit.
- The rating plate (serial number plate) of the AC power adapter/battery charger is on its bottom.

This unit is produced to comply with Directives 76/889/EEC, 82/499/EEC, 87/308/EEC and Standard IEC Publ. 65.

You are recommended to carefully read the cautions on page 40 and 41 before use.

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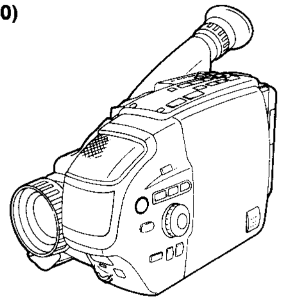
MAJOR FEATURES

- **Automatic 8-Segment Random Assemble Editing (☞ P. 30)**
- **Full function MBR (Multi-Brand Remote) (☞ P. 28 – 35)**
- **8-mode programme AE with special effects (☞ P. 16)**
- **20x digital zoom (☞ P. 15)**
- **Full Range AF system with Auto Macro (☞ P. 14, 15)**
- **Built-in design-integrated video light (☞ P. 21)**
- **Digital Image Stabilizer (☞ P. 18)**
- **Cinema mode (☞ P. 19)**
- **4-Lux low-light sensitivity**
- **Auto head cleaner (☞ P. 42)**



Just make sure...
it's Compact VHS

JVC COMPACT VHS ADVANTAGES

☞ **Convenience**
Easy playback on your VHS deck — no hook-ups necessary.

☞ **Conserve**
Don't have to use the camcorder for playback — only half the camcorder wear.

☞ **Comfort**
Can use the deck's remote control and high speed REW and FF from your easy chair.

☞ **Communication**
Can send your tapes to others who also own a VHS VCR.

☞ **Choice**
Can also playback recordings through the viewfinder or connect directly to a TV.

This VideoMovie is designed to be used with PAL-type colour television signals. It cannot be used for playback with a television of a different standard. However, live recording and viewfinder playback are possible anywhere.
Use the BN-V12U/BN-V14U/BN-V22U/BN-V50U/BN-V60U battery packs and, to recharge them, the provided multi-voltage AC power adapter/battery charger. (An appropriate conversion adapter may be necessary to accommodate different designs of AC outlets in different countries.)

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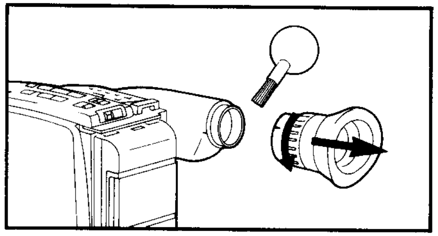
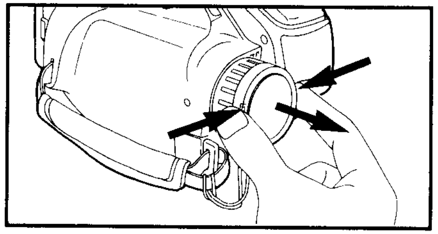
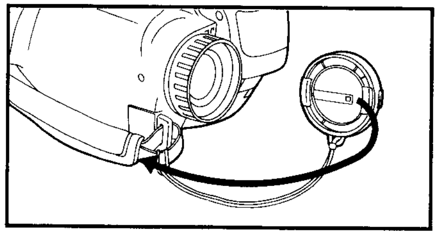
㉗	Recording Start/Stop button	10
㉘	Battery pack mount	6
㉙	Clock battery compartment	9
㉚	Grip strap	8
㉛	EJECT switch	8
㉜	POWER switch with LED indicator	10
㉝	PAUSE button	13, 23
㉞	FF/RETAKE F button	11, 22
㉟	REW/RETAKE R button	11, 22
㊱	PLAY button	22
㊲	EDIT/Q.REVIEW button	11, 26
㊳	STOP button	22
㊴	FOCUS FAR/NEAR button	14
㊵	PLAY/CAMERA select switch	
㊶	C.MEMORY (counter memory) button	23
㊷	C.RESET (counter reset) button	23
㊸	DATE/TIME ADJ. SET / TRACKING button	9, 22
㊹	Display MODE button	12
㊺	DATE/TIME ADJ. SELECT button	9
㊻	Tape length select switch	11
㊼	Power zoom buttons	15
㊽	DISPLAY on/off button	9, 12
㊾	Tripod mounting socket	37



Cleaning the eyepiece
The viewfinder eyepiece can be removed for cleaning. Turn the eyepiece counterclockwise and pull it out.



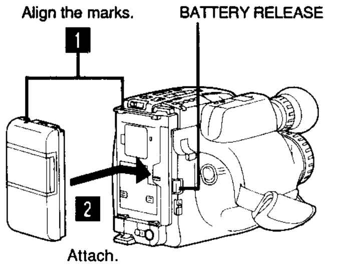
Remove/reattach the lens cap
Remove or reattach the lens cap by pressing the tabs on either side of the lens cap.



Attaching the lens cap to the hand grip, prevents it swinging while shooting.

QUICK OPERATION GUIDE

SUPPLY POWER

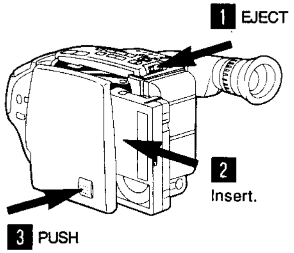


Using the battery pack

1. Align mark on battery pack with similar mark on back of VideoMovie. (Charging procedure, ☞ P.6)
2. Slide the battery pack in the direction of the arrow until it locks into place.

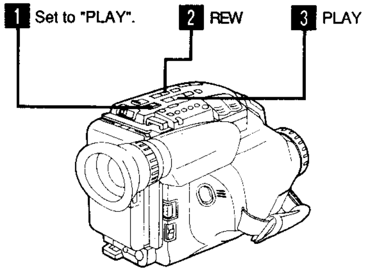
To remove the battery pack
Press BATTERY RELEASE and slide out the battery pack.

INSERTING A VIDEO CASSETTE



1. Slide EJECT.
2. Insert a video cassette.
3. Press PUSH.
(For more details, ☞ P.8.)

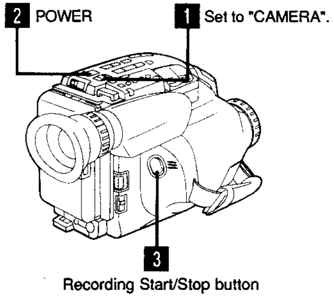
PLAYBACK



1. Set PLAY/CAMERA to "PLAY".
2. Press REW.
— The tape will automatically stop at the beginning of the tape.
3. Press PLAY.
— Playback starts and playback picture appears in the viewfinder.

- To stop playback, press STOP.
(For more details, ☞ P.22.)

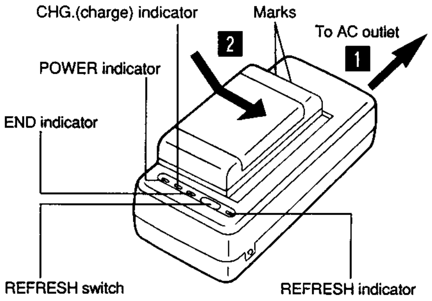
SHOOTING



1. Set PLAY/CAMERA to "CAMERA".
2. Slide POWER to turn power on.
— The power indicator will light and image will be seen in the viewfinder.
3. Press the Recording Start/Stop button.
— Recording starts.

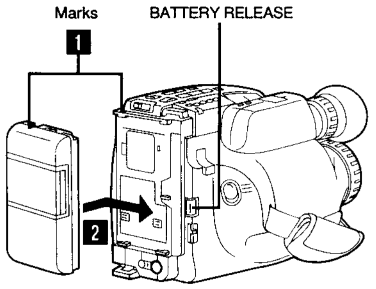
- To stop recording temporarily, momentarily press the Recording Start/Stop button once again.
(For more details, ☞ P.10.)

PREPARATIONS



	Charging time	Discharging time
BN-V12U	approx. 70 min.	approx. 210 min.
BN-V14U	approx. 80 min.	approx. 270 min.
BN-V22U	approx. 130 min.	approx. 420 min.
BN-V50U	approx. 170 min.	approx. 510 min.
BN-V60U	approx. 130 min.	approx. 420 min.

- The diagrams above indicate the approximate charging and discharging times of battery packs that are fully charged.
- Charging time and discharging time will vary depending on the ambient temperature and the status of the battery pack.



Recording time

	Video light OFF	Video light ON
BN-V12U	approx. 55 min.	approx. 30 min.
BN-V14U	approx. 65 min.	approx. 40 min.
BN-V22U	approx. 110 min.	approx. 70 min.
BN-V50U	approx. 140 min.	approx. 85 min.
BN-V60U	approx. 110 min.	approx. 70 min.

- *The recording time per charge is influenced by the duration of the recording standby, frequency of zooming, etc. It is safer to have spare battery packs.*

POWER SUPPLY SYSTEM

The convenient 3-way power supply system gives you a choice of the most appropriate power supply unit, depending on the application.

- No function is available without power supply.
- Do not use any power supply other than specified.
- Never attempt to use these power supply units with any equipment other than the VideoMovie.
- The provided AC Adapter/Battery Charger features automatic voltage selection in the AC range from 110 V to 240 V.

WITH BATTERY PACK

The battery pack has been kept in the uncharged state for shipment. Therefore, before use, be sure to charge it.

Charging the battery pack

1 Connect the AC power cord to a wall outlet.
— The power indicator lights.

2 Align marks and slide the battery pack in the direction of the arrow until it locks in place.
— The CHG. indicator lights.
— When charging has been completed, the END indicator will light.

3 Slide the battery pack in the opposite direction of the arrow.

Attaching the battery pack

- Before attaching the battery pack, insert the lithium battery.(☞ P.9)

1 Align mark on battery pack with similar mark on back of VideoMovie.

2 Slide the battery pack into place in the direction of the arrow until it locks in place.

To remove the battery pack:

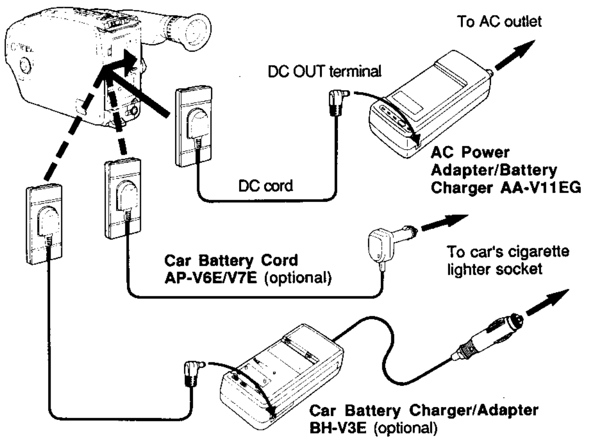
Slide out the battery pack while pressing BATTERY RELEASE.

Using the REFRESH feature

The REFRESH feature on the AC power adapter AA-V11EG allows you to completely discharge the power from the battery pack before charging. After charging the battery pack several times, the actual battery operating time will gradually decrease. For this reason it is recommended to use the REFRESH feature only after every 5 charges.

1 Attach the battery pack to the adapter as illustrated above.

2 Push REFRESH.
— The REFRESH indicator will light and discharging will begin.
— After discharging is completed, the indicator will go off.


To AC outlet
DC OUT terminal
DC cord
AC Power Adapter/Battery Charger AA-V11EG
Car Battery Cord AP-V6E/V7E (optional)
To car's cigarette lighter socket
Car Battery Charger/Adapter BH-V3E (optional)

WITH AC POWER

Use the AC Power Adapter/ Battery Charger.

Note:

This unit can be used with 110 V to 240 V power supplies. Selection is automatic and no adjustment is required.

IN A CAR

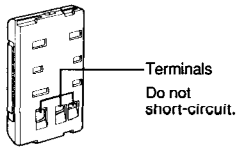
Use the optional BH-V3E Car Battery Charger or AP-V6E/ AP-V7E Car Battery Cord. Before use, refer to the instruction booklet.

Notes:

- Do not repeatedly recharge a battery pack without fully discharging it. Its service life will decrease. Use the REFRESH feature after every 5 charges.
- Even if a battery pack is fully charged, but is not used, it naturally discharges gradually. Be sure to recharge the battery pack just before using it, or the day before you intend to use it.
- This unit becomes warm due to the flow of electric current inside. Operate it in places having good ventilation. Do not allow it to discharge in a container, such as a bag, etc. Blocking the ventilation causes the temperature inside the unit to rise, possibly resulting in a damaged unit.
- If either recharging or discharging is stopped in the middle of the process, remove the battery pack before unplugging the AC cord.
- This unit incorporates an over-discharging protection circuit; however, immediately remove the battery pack from this unit after discharging has been completed to maintain the battery pack's capacity.
- If used near a radio, the AC power adapter may interfere with reception.
- Be sure to unplug the DC cord before charging or discharging the battery pack.
- Before storing the battery pack for a long period it is recommended to discharge it. To discharge the battery pack, unplug the AC adapter and attach the battery pack before activating the REFRESH function. When activated, the REFRESH indicator will light. When discharge is completed, the indicator will go off.
- The REFRESH feature will not function if the power status of a battery pack is discharged (No power remaining).
- When the CHG.indicator is blinking, the battery pack has become hot. Wait for a while for the battery pack to cool. With a just-purchased battery pack, or with a battery pack that has been stored for a long period, the CHG.indicator may not light properly. In such a case, remove and reattach the battery pack again, then do the recharging procedure. The CHG.indicator should light during recharging to indicate, the battery pack is normal. If this is not the result, consult your nearest JVC dealer.

A WORD ON THE EXCLUSIVE BATTERY PACKS

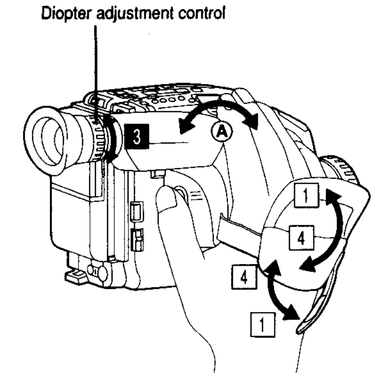
The battery packs are nickel-cadmium batteries and nickel-metal hydride batteries. Be sure to carefully read the caution attached to the battery pack.



Temperature ranges:

The recharging time is based on room temperature of 20°C.
The lower the temperature, the longer the recharging time.

For charging:	10°C to 35°C
For operating:	0°C to 40°C
For storing:	–10°C to 30°C



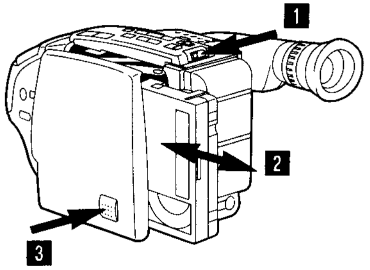
ADJUSTING THE GRIP STRAP

1. Separate the Velcro strip to expand the loop.
2. Pass your right hand through the loop and grasp the grip.
3. Adjust the length of the strap so that your thumb and fingers can easily manipulate the Recording Start/Stop button and power zoom buttons.
4. Refasten the Velcro strip.

VIEWFINDER ADJUSTMENT

- **Positioning**
  The viewfinder can be positioned for best viewability (Ⓐ).
- **Diopter adjustment**
  The viewfinder lens can be adjusted to suit the operator's eyesight.

1. Set PLAY/CAMERA to "CAMERA".
2. Slide POWER to turn power on.
3. Turn the diopter adjustment control until the indications in the viewfinder are clearly focused.



LOADING AND UNLOADING A VIDEO CASSETTE

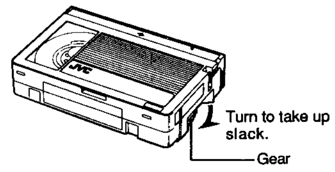
Loading

1. Slide EJECT. — The cassette holder opens.
2. Insert the cassette with its label facing outward.
3. Press PUSH to close and lock the cassette holder.

Unloading

1. Slide EJECT. — The cassette holder opens.
2. Remove the cassette.
3. Press PUSH to close and lock the cassette holder.

Notes:



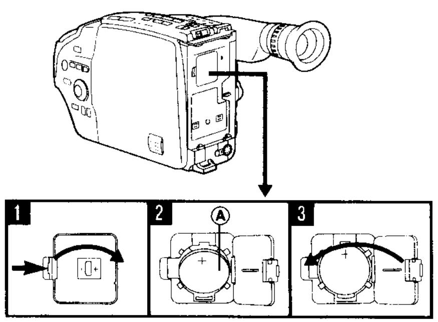
- Ensure that tape is not slack inside the cassette, then load the cassette correctly.
- Do not repeat loading and unloading of the cassette without running the tape, as this will slacken the tape, causing tape damage.
- The cassette holder can be opened even when the power is off.

DATE/TIME/BIRTHDAY SETTING

CLOCK (LITHIUM) BATTERY INSERTION

Necessary for clock and date/time/age settings.

* Switch off the unit's power and remove the power suppply unit before inserting or removing the clock battery.



1. Open the clock battery compartment cover while pressing the release tab.
2. Insert the provided lithium battery with the plus (+) side up and push it in.
   * When removing the battery, push Ⓐ and lift it up.
3. Close the compartment cover until it clicks in place.

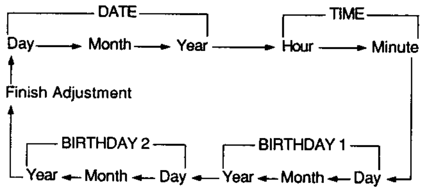
Warning on lithium battery
- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of it in fire.

(See Warning on lithium battery, ☞ P.2)

SETTING DATE/TIME/BIRTHDAY

Before adjusting the date, time and birthday for the first time or after replacing the battery.

1. Slide POWER to turn power on.
2. Set PLAY/CAMERA to "CAMERA".
3. Press DISPLAY. — The day blinks.
4. Press SET (+/–) to choose the correct day.
5. Press SELECT to select the next item to change.
   The item selected changing in the sequence below:



6. Procedures in steps 4 and 5 allow you to set Date and Time.
   After the Time has been set proceed to the Birthday setting.

Setting the "Birthday"

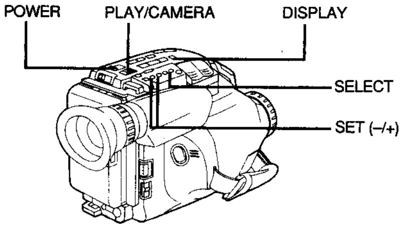
The VideoMovie is provided with a "Birthday" memory function so that once someone's date of birth is entered into memory, the unit can display and record his or her age, automatically calculated to the current dates of the scenes. The "Birthday" memory accommodates 2 different settings (birthdays).

- Age-indication appears as follows:

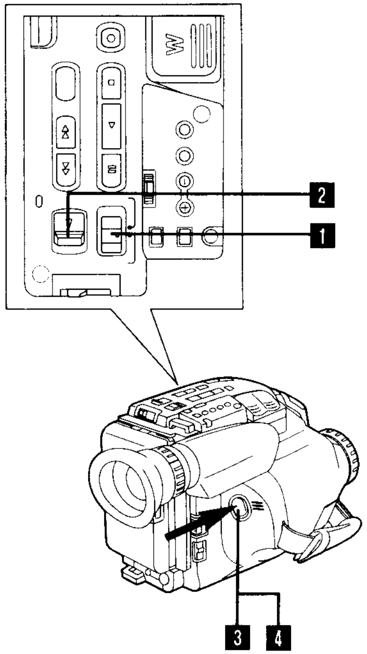
Under one-month-old	1D to 31D
Under one-year-old	1M to11M
Under 7-year-old	1Y0M to 6Y11M
7 and over 7-year-old	7 Y to 99Y

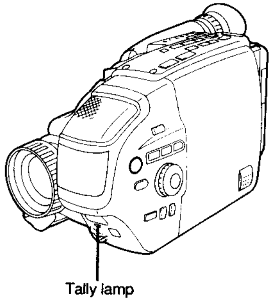
7. Make the settings for the items of BIRTHDAY 1 and/or BIRTHDAY 2 as described in steps 4 and 5.
   - When MODE is pressed during input of either BIRTHDAY, this clears the date from that setting. (Both BIRTHDAY 1 and BIRTHDAY 2 can be cleared.)
8. After all items have been set, press SELECT.
   — Now that the setting is completed, blinking stops. The date will appear after the date, time and age have been displayed for about 3 seconds. At this time, ages 1 and 2 are displayed for about 1.5 seconds each. (If a BIRTHDAY is blank, then "– – –" is displayed instead of an age.)

Notes:
- The clock begins timekeeping when the minute portion stops blinking and remains constantly lit. While the Date or Time are blinking, the clock does not keep time. Be sure to confirm the correct time when setting the Birthday.
- When re-adjusting the data, press DISPLAY to display each item and press SELECT and SET to correct them. After adjustment is completed, the date, time and age appear for about 3 seconds, then the display returns to the mode before correcting.



RECORDING OPERATION





SHOOTING

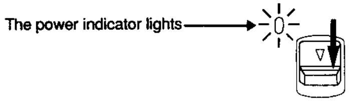
Preparations

- Supply power.(☞ P.6.)
- Insert a video cassette correctly. (☞ P.8.)
- Adjust the grip strap. (☞ P.8.)

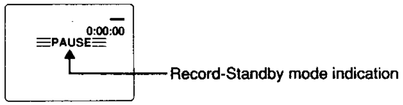
1. To enter the Record-Standby mode

1 Set PLAY/CAMERA to "CAMERA".

2 Slide POWER to turn power on.

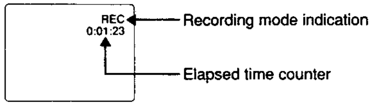


— The VideoMovie enters the Record-Standby mode.
The aimed-at scene will appear on the viewfinder screen.



2. To shoot the scene

3 Press the Recording Start/Stop button to start recording.
— The tally lamp lights while the recording is in progress.

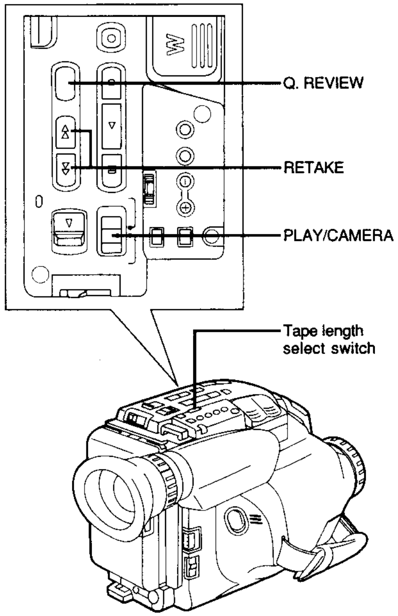


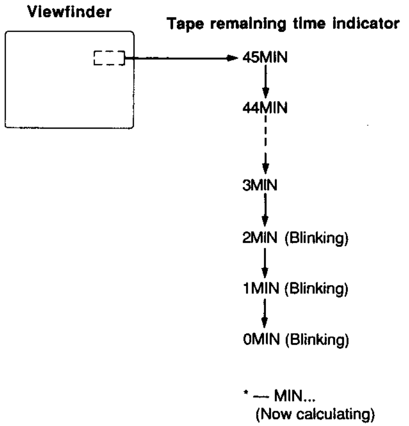
4 To stop recording temporarily.
Press the Recording Start/Stop button again.

- To restart recording.
  Press the Recording Start/Stop button.
- Repeating steps **3** and **4** produces assemble recordings.

Notes:

- For a longer pause, slide POWER to turn power off to save power.
- When a tape reaches its end during recording, "TAPE END" indicator will appear in the viewfinder and POWER itself off automatically if left for longer than 5 minutes.
- If the Record-Standby mode continues for longer than about 5 minutes, the unit switches itself off automatically. To restart recording, turn the power on and press the Recording Start/Stop button. This makes clean assembled recordings possible even after a long pause.
- When digital modes are engaged, there will be a decrease in resolution and the picture will appear coarser than normal.





QUICK REVIEW

If you want to review the end of the last recording for confirmation, use this function.

- Press Q. REVIEW from the Record-Standby mode.
  — The tape will be rewound for about 2 seconds of program time and played back automatically for this section, after which it will pause in the Record-Standby mode for the next shot.

Note:

Distortion might occur when playback starts. This is normal.

AUTO-REHEARSAL

Rehearsal mode is automatically engaged in the following situations:
PLAY/CAMERA is set to the "CAMERA" position and;

- no cassette is loaded, or
- a cassette without its safety tab is loaded.
- Rehearsal mode is not engaged when PLAY/CAMERA is set to "PLAY".

RETAKE

While recording, you may decide to re-record certain segments. The Retake function is convenient for this.

1 Make sure the VideoMovie is in the Record-Standby mode. (If not, engage the mode.)

2 Press either RETAKE to reach the point where you wish a new recording to start.

- When RETAKE is released, the camera will enter the Record-Standby mode again.

3 Press the Recording Start/Stop button.
— Recording starts.

Note:

Noise may appear during Retake. This is normal.

TAPE REMAINING TIME

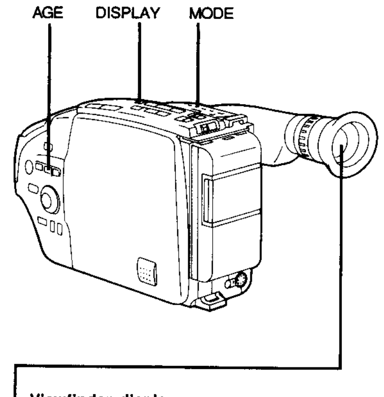
The tape remaining time is displayed in the viewfinder as shown. Before shooting, set the tape length select switch according to the tape being used.

- **EC-30:** When using a tape with 30-minute recording time or less.
- **EC-45:** When using a tape with recording time more than 30 minutes.

Notes:

- The indication will start blinking when the remaining tape time reaches 2 minutes.
- The indicated remaining time is approximate.
- The time required to calculate the remaining tape length and accuracy of the calculation may vary according to the type of tape used.
- "TAPE END" appears when the tape reaches its end. "TAPE END" also appears when a cassette is loaded whose tape is already at its end.

RECORDING OPERATION (Cont'd)



Viewfinder display

Date/Age display → Auto Date record mode
↓
Auto Date Titler
↓
Age display → Time/Age display → Date/Time display
↑
On-screen display
↑
Date/Age display

Date/Time/Age recording indications

Date /Age display	AUTO DATE record mode	
25. 12. 93 6Y11M	AUTO DATE Auto date record mode	25. 12. 93 Auto date record executed
Auto date titler	**Age display**	**Time/Age display**
25. 12. 1993	6Y11M	23:59 6Y11M
Date/Time display		
25. 12. 93 23:59		

DATE/TIME/AGE RECORDING

The date/time/age can be displayed and recorded according to the selected mode.
Press MODE to cycle through the modes in the left order:

- The selected display mode will be recorded when it is displayed on the viewfinder screen; when it is not displayed, no display recording takes place. Pressing DISPLAY turns it ON and OFF.

Note:
During Date/Age display, Age display, Time/Age display and On-screen display, the age will not be displayed unless the AGE button is pressed. Pressing AGE will display the following in this order:

No age display → Age 1 → Age 2
↑________________________|

(Unless a birthday is input, ☞P.9, the age will not be displayed.)

Auto Date-Record function

This function allows the date (day, month and year) to be automatically recorded for about 5 seconds following the first operation of the Recording Start/Stop button:

= after changing the date.
= after a cassette is loaded, or
= after "AUTO DATE" mode is selected by MODE.

- The viewfinder indication shows the date during initial 5 seconds, then changes to "AUTO DATE".
- The auto date record reserve indication will disappear if DISPLAY is set to off. Reapplying power will bring back the indication.

Auto Date Titler

When set to this mode, the date (day/month/year) will be displayed in large characters in the centre of the viewfinder screen. The date is recorded for 5 seconds at the beginning of each recording in the following situations:

= after changing the date,
= after a cassette is loaded, or
= after the Auto Date Titler mode is selected by pressing MODE.

- The date of Auto Date Titler will not be recorded if DISPLAY is pressed before starting recording, regardless of the above situations.
- The date of Auto Date Titler can be recorded for 5 seconds anytime by pressing DISPLAY during shooting, even if it was recorded or not displayed at the beginning of the recording.
- To cancel the Auto Date Titler mode during shooting, press DISPLAY.

Note:
The date of Auto Date Titler can be recorded repeatedly during shooting, but it cannot be inserted more than 5 seconds at a time.

ASSEMBLE RECORDING TECHNIQUES

To replace the battery pack during recording:

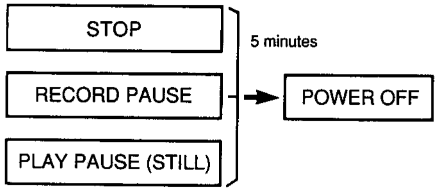
1. If the low-battery warning (🔋) blinks in the viewfinder while recording, stop recording and slide POWER to turn off.
2. Replace the battery pack with a charged one.
3. Slide POWER to turn power on.
   — The unit will be in the Record-Standby mode.
4. Press the Recording Start/Stop button.
   — Recording starts.

To record onto a partially recorded tape:

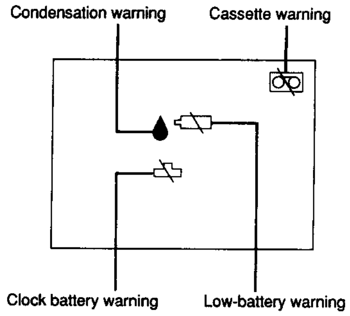
1. Set PLAY/CAMER to "PLAY" and press PLAY to playback the tape to a point where you wish a new recording to start.
   - Use REW or FF for faster location.
2. Press PAUSE at the located point.
   — The unit will enter the Still mode.
3. Set PLAY/CAMERA to "CAMERA".
4. Press the Recording Start/Stop button.
   — Recording starts.

POWER SAVE AND TAPE PROTECTION CIRCUIT

- To save power, the VideoMovie switches itself off automatically in the following situations:
  (1) When left for longer than 5 minutes in the Stop mode.
  (2) When left for longer than 5 minutes in the Record-Standby (Record-Pause) mode.
- To protect the tape, the VideoMovie (regardless of whether battery-operated or AC-powered) releases tape tension slightly and switches itself off automatically if left for longer than 5 minutes in the Record-Standby (Record-Pause) mode.
- For the same reason, the VideoMovie enters the Stop mode if left for longer than 5 minutes in the Still (Play-Pause) mode.



WARNINGS



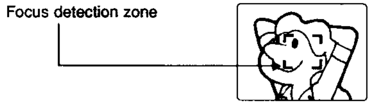
LOW BATTERY WARNING (🔋)
When the battery power is coming to an end, a battery warning indication appears in the viewfinder. After indication appears, the power turns off automatically. Replace the battery pack with a fully charged one.

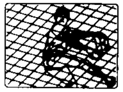
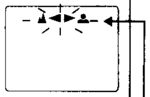
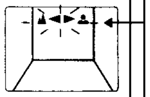
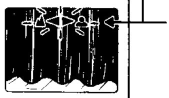
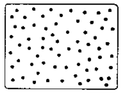
CLOCK BATTERY WARNING (⌁)
Blinks when the lithium battery is not in place or exhausted. In this condition, no date/time function is available.

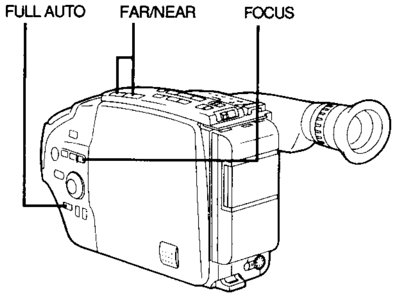
CONDENSATION WARNING (💧)
Appears when the excessive moisture condensation occurs inside the unit.

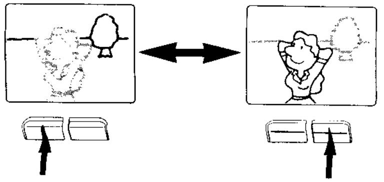
CASSETTE WARNING (📼)
Blinks to warn that no cassette or a cassette without safety tab is loaded.

ADVANCED VIDEOGRAPHY TECHNIQUES



	Two subjects at different distances overlap in the same scene.
	Low illumination.
	The subject has no contrast (differences in brightness and darkness), such as a flat, one-colour wall, or a clear, blue sky, for instance.
	Low-contrast warning. A dark object is barely visible in the viewfinder.
	Minute patterns or identical patterns that are regularly repeated.





FOCUSING

Auto-focus

The rectangular focus area, shown by the indicators in the centre of the viewfinder, detects focus.

Notes:

- If the lens is smeared with stains or blurred with condensation, accurate focusing is not possible. Keep them clean. If they become dirty, wipe with a piece of soft cloth. When condensation occurs, dry them by wiping with a soft cloth or wait for conditions in which they become dry.
- Correct focus may not be obtained in these situations on the left. In such case manual focusing should be performed to obtain proper focus.

Manual focus

For manual focus operation, proceed as follows:

1. Press FOCUS to release the Auto Focus mode.
   — The Manual Focus indicators (▲♟) appear and the focus detection zone disappears.
2. Zoom in on a subject by pressing "T".
3. Focus onto it by pressing either FAR or NEAR.
   - Press FAR.
     The ◄ indicator blinks. It will disappear when the button is released.
   - Press NEAR.
     The ► indicator blinks. It will disappear when the button is released.
   - When the focus level cannot be adjusted any farther or closer, the indicator (▲) or the indicator (♟) will blink.
4. Determine the composition by pressing "W".

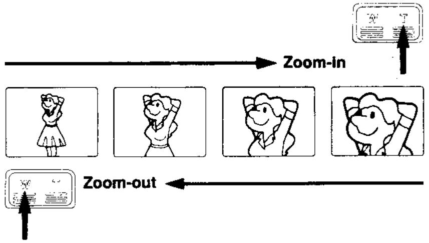
- **To release the Manual Focus mode** (to engage the Auto Focus mode):
  Press FOCUS, or FULL AUTO.
  — Manual focus indicators (▲♟) disappear and the focus detection zone appears.

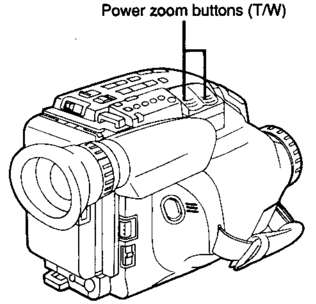
Notes:

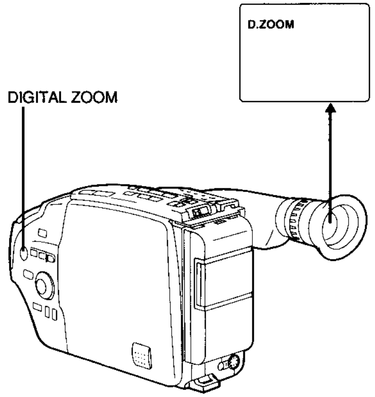
- When you use the Manual Focus mode, be sure to focus the lens in the maximum telephoto position. If you focus in on a certain subject in the wide-angle position, sharply-focused images cannot be obtained when zoomed up because the depth-of-field is reduced at longer focal lengths.
- When focusing manually, make neccessary viewfinder adjustments (☞ p. 8), then focus in.

CAUTION

When not in use, do not leave the VideoMovie in the Auto Focus mode with power on; otherwise light entering the lens will operate the auto-focus mechanism, consuming power.







Close-Up — Auto macro shot

The VideoMovie's Full Range AF system can offer continuous shooting ability from close-up to infinity.

Procedure for Macro shooting

Position the subject in the focus detection zone.

- For best results, increase illumination when shooting in the Macro mode.

ZOOMING

Pressing the power zoom buttons ("T" and "W") will vary the focal length of the lens.

Procedure

- Pressing T : Zoom in on the image (bring it nearer).
- Pressing W : Zoom out.

To engage Digital Zoom:

Digital zoom offers double the magnification of normal zoom. (Maximum approx. 20x)

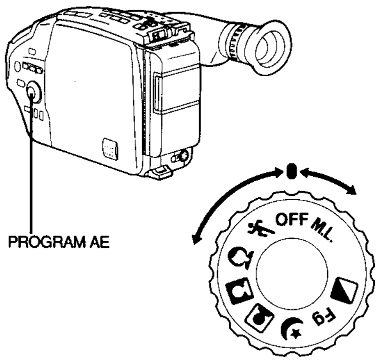
1. Press DIGITAL ZOOM.
   — "D. ZOOM" will appear in the viewfinder.
2. Press T/W to zoom in/out.

To disengage Digital Zoom:

Press DIGITAL ZOOM again.

Notes:

- Focusing may become unstable during the zooming-in operation. In this case, first zoom in in the Recording Standby mode then, after using the manual focusing to hold the focus fixed, zoom in or out in the Record mode.
- When shooting low-contrast subjects in the Zoom-in mode, the VideoMovie automatically zooms out with the low contrast indicator blinking and focus being performed.
- When the battery is replaced, the zoom lens will reset to the telephoto position.



PROGRAMME AE WITH SPECIAL EFFECTS

A variety of creative shooting effects are accessible with PROGRAM AE select dial.

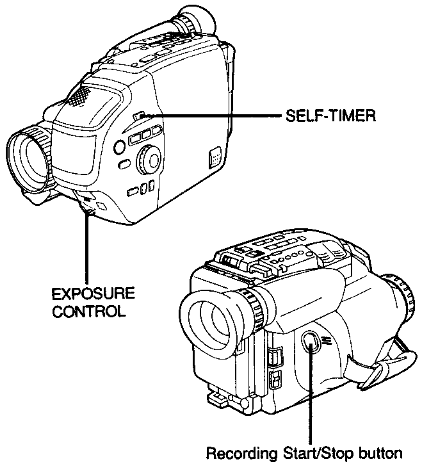
To engage any of the effects:

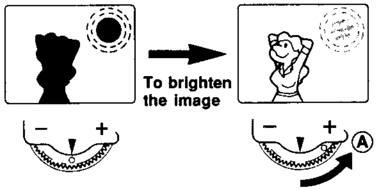
Turn the PROGRAM AE select dial so that the desired indication appears in the viewfinder.

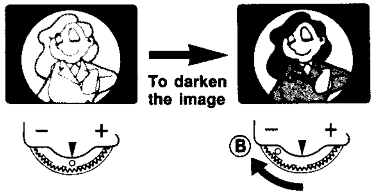
To cancel the effect:
Turn the dial to "OFF".

Notes:
- Only one Special effect can be activated at a time.
- During SPORTS and PORTRAIT mode, the viewfinder will display "AE" instead of shutter speed, and the actual shutter speed will be regulated automatically.
- If the "M. LOCK" indication is blinking in the viewfinder, press FULL AUTO or turn the dial to "OFF" first and then set it back to "M.L." (If the "M. LOCK" indication left blinking while shooting, normal shooting results cannot be attained.)

Effect			What it does/When to use
Mode	Symbol	Viewfinder indication	
Manual Lock	M.L.	M. LOCK	Instantly locks the VideoMovie's settings (focus, shutter speed, white balance, iris and AGC) at their present positions. Suitable for shooting stage performances, etc. where sudden and rapid changes in lighting can occur. ■ FOCUS FAR/NEAR buttons can be used. ■ SHUTTER, MWB and EXOPSURE CONTROL will become inactive. ■ Keeping FULL AUTO pressed activates the VideoMovie's full auto operation mode. When FULL AUTO is released, the settings will revert to those before FULL AUTO was released. (However, since it may take a while for white balance to adjust, it is recommended that you connect the VideoMovie to a colour monitor TV and keep FULL AUTO pressed until white balance stabilizes.)
Sports	🏃	SPORTS	Uses high shutter speed to clearly capture fast-moving action with less blur. Clarity is especially noticeable during slow motion playback on a video deck. Great for sports, races, etc.
Portrait	👤	PORTRAIT	Reduces depth-of-field so the background becomes blurry while the subject remains clearly focused. Use it for beautiful portrait shots.
Back-Lit Compensation	👤	B-LIT	Compensates for backlighting that may cause subjects to appear too dark; like a person standing in front of a window, with the sun to his back, etc.
Front-Lit Compensation	👤	F-LIT	Compensates for washed-out images that can occur with subjects that are spotlighted from the front. Ideal for weddings, stage plays, etc.
Twilight	☾	TWILIGHT	Disengages the auto gain control, high-speed shutter and auto focus (manual focus is activated), and automatically sets focus to infinity and white balance to OUTDOOR mode. Dusk and twilight scenery, fireworks, etc. look more natural and dramatic. ■ Manual adjustment of shutter speed (☞P.20), white balance (☞P.18), and focus (☞P.14) is possible. ■ Pressing FOCUS re-engages the auto focus mode.
Electronic Fog filter	Fg	FOG	Makes the picture look misty white; similar to the effect when an external fog filter is attached to the lens. Useful when you want to soften an image slightly or give it a "fancy" look.
Monotone	◩	MONOTONE	The scene being shot will be recorded in sepia-tinted monochrome, making it look like an old movie. By using it in combination with Cinema mode (☞P.19), you can recreate the authentic look of a classic Hollywood movie.





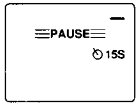


SELF-TIMER

The Self-Timer function lets you delay the start of recording after the Recording START/STOP button has been pressed. If the VideoMovie has been secured, the operator can enter the picture before actual recording begins.

1. Put the VideoMovie into the Record-Pause mode.
2. Press SELF-TIMER to enter the Self-Timer mode.
   — "⏲15S" is displayed in the viewfinder.

Viewfinder



3. Press the Recording START/STOP button.
   - Recording begins automatically after 15 seconds.
   - When performing Self-Timer shooting, the tally lamp will start blinking approximately 10 seconds before the actual recording begins. Then when recording starts, the lamp lights normally to indicate recording is in progress.

To release the Self-Timer mode:

When "–" is not blinking:
Press SELF-TIMER again.

When "–" is blinking:
Press START/STOP to stop the blinking, then press SELF TIMER.

- Turning the power off and on once engages the regular Record-Pause mode.

EXPOSURE CONTROL

The conveniently located EXPOSURE CONTROL dial allows manual adjustment of the VideoMovie's iris.
It is useful when you want a brighter/darker image, as well as when the Front-Lit or Back-Lit Compensation mode (☞ p. 16) is not effective enough.

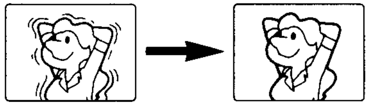
To brighten the image:
Turn the dial in the direction of Ⓐ (+).

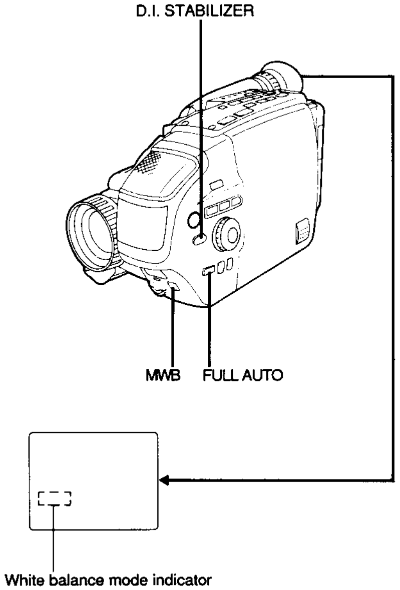
To darken the image:
Turn the dial in the direction of Ⓑ (–).

To return to pre-set standard:
Turn the dial to the middle (▼) position.
- When shooting under normal conditions, make sure that the dial is set at the middle position.

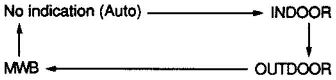
Note:
Even during manual exposure control, the auto iris remains active to optimize exposure within the brighter or darker level that has been manually selected.

ADVANCED VIDEOGRAPHY TECHNIQUES (Cont'd)





White balance mode indicator



DIGITAL IMAGE STABILIZER

To compensate for the unstable images caused by camera-shake (especially noticeable at high zoom ratios), this VideoMovie incorporates a Digital Image Stabilizer.

To engage the Digital Image Stabilizer:

Press D.I. STABILIZER.

- D.I.S. will appear in the viewfinder.

To disengage the Digital Image Stabilizer:

Press D.I. STABILIZER again.

WHITE BALANCE ADJUSTMENT

This VideoMovie's Automatic Colour Temperature system senses the colour temperature of the ambient lighting for automatic white balance adjustment. However, precise colour temperature adjustment is not possible under the following conditions:

- The object is in various shades of the same colour.
- Predominantly red or brown object is being shot outdoors.

In these cases, use the VideoMovie's built-in filters for white balance adjustment.

To adjust the white balance:

Press MWB (Manual White Balance) so that the required indication appears in the viewfinder.

INDOOR .... When the source of illumination is a halogen or tungsten lamp.
OUTDOOR ...... When you shoot in the daytime outdoors.
MWB .... In the following situations.

How to use the MWB mode

In the MWB mode, the VideoMovie automatically adjusts the colour temperature of the subject's light source and keeps that colour temperature during shooting. When shooting some subjects with different colour temperatures, use the MWB mode to set a colour temperature and you can shoot with natural colours that are not affected by surroundings.

1. Press MWB until "MWB" appears in the viewfinder.
2. Point the VideoMovie at a white, flat object such as a sheet of white paper.
   Adjust focus manually.
3. Keep MWB pressed for more than about 3 seconds.
   ❶ "MWB" blinks in the viewfinder .... During adjustment
   ❷ "MWB" is lit .... Adjustment is finished
   — The VideoMovie is now ready for shooting.

Note:

Re-adjust the MWB mode in the following conditions:

- When the lighting has changed.
- When the VideoMovie has been turned off and on again.
- When the PLAY/CAMERA switch position has been changed.

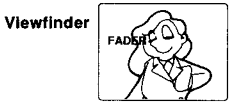
To switch to automatic adjustment:

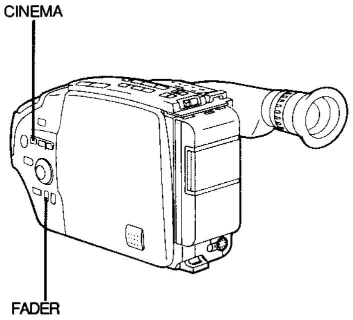
Press MWB until the indication disappears, or press FULL AUTO.

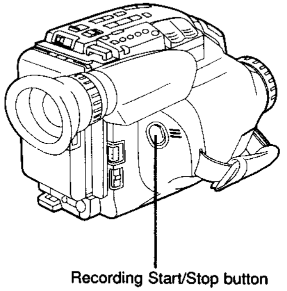
Useful tip:

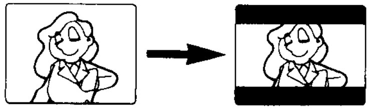
It is helpful to connect your VideoMovie to a colour monitor when adjusting the white balance.

FADE-IN
FADE-OUT









Cinema mode

FADER

This VideoMovie incorporates a fader function which allows smooth video fade-in and fade-out to a black blank screen.
(With the Electronic Fog filter mode (☞ p. 16) engaged, the image fades in/out to a white (gray) screen.)

Fade-in

1. Press FADER.
   — The VideoMovie enters into the Fade-Standby mode and "FADER" appears.
2. Press the Recording Start/Stop button.
   — The screen immediately becomes blank and recording begins. Fade-in starts at the moment the Recording Start/Stop button is released.
   - If the button is not released, the screen will remain blank and be recorded as long as the button is kept pressed.

Fade-out

1. Press FADER in the Recording mode.
   — The VideoMovie enters the Fade-Standby mode and "FADER" appears.
2. Press the Recording Start/Stop button.
   — The viewfinder indications start blinking. Fade-out starts and will be completed in a few seconds.
   - When completed, the VideoMovie enters the Record-Standby mode automatically. At this time, if the button is not released, the screen will remain blank and be recorded as long as the button is kept pressed.

Note:

The screen will become slightly reddish when the fader function is used in the Monotone mode. (☞ p. 16).

CINEMA MODE

This VideoMovie incorporates a "Cinema" mode recording function which allows you to record black bars at the top and bottom of the screen to produce a cinema-like "wide-screen" effect.

To engage the Cinema mode:

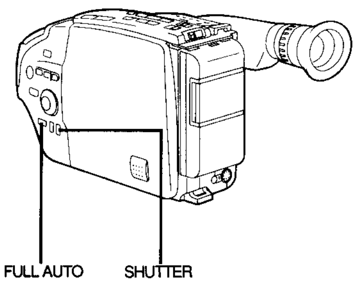
Press CINEMA.

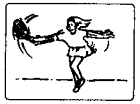
To restore the normal screen:

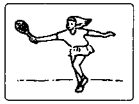
Press CINEMA again.

Note:

The Cinema mode can be engaged only in the Record-Pause, Record or Rehearsal mode.




Standard mode


High-Speed Shutter mode

MULTIPLE-SPEED ELECTRONIC SHUTTER

The VideoMovie is equipped with a selectable high-speed shutter that allows better recording of quick movements for sharp, clear stills or slow-motion playback.
Select it when taping fast-action shots that you will want to play back later on a VCR equipped with the Still or Slow-motion mode.

1 Press SHUTTER to switch to the desired electronic shutter speed while recording or in any other mode.
— Continues at the selected speed until switched to another speed.

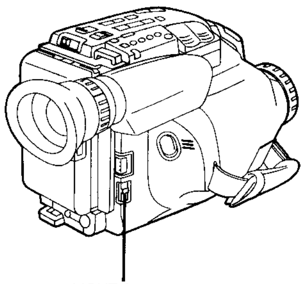
2 Select the shutter speed by pressing SHUTTER.
— The shutter speed changes in the following order:

Standard (No indication) → S50(1/50) → S60(1/60)
↓
S125(1/125)
↓
S250(1/250)
↓
S500(1/500) → S1000(1/1000) → S2000(1/2000)
↑
S4000(1/4000)
↑
S8000(1/8000)
↑
Standard (No indication)

- When a high shutter speed is selected, it is indicated in the viewfinder screen.

3 When finished recording the fast-action scene, switch back to the standard shutter speed by pressing SHUTTER until the shutter mode indicator in the viewfinder disappears.

Notes:
- High-Speed Shutter modes require slightly more subject illumination than the standard shutter speed. If lighting is insufficient, switch to the standard shutter speed.
- Picture colour may be adversely affected in High-Speed Shutter modes when the subject is lit by alternating discharge-type light sources such as fluorescent or mercury-vapour lights.
- When playing back a section recorded in High-Speed Shutter mode, movement of subjects in the picture may not be smooth. This is not due to any defect of the unit.
- Pressing FULL AUTO also restores the shutter speed to the standard shutter speed.



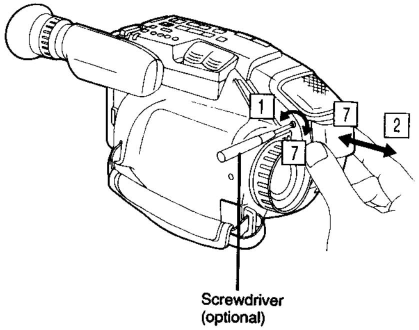
LIGHTING

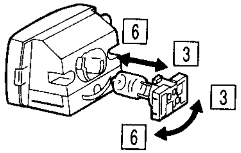
To apply more light to the scene

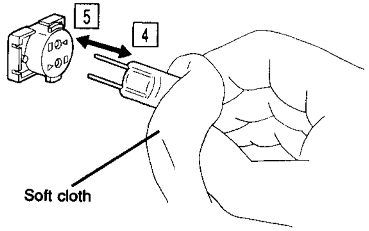
When natural lighting is too dim, you can brighten the scene by using the built-in video light.
Use the LIGHT ON/OFF switch to turn the video light on or off.
- It is recommended to set the white balance to INDOOR mode (☞P.18) when you use the video light.
- When not using the video light, turn it off to save battery power.
- The video light can be used with the VideoMovie's PLAY/CAMERA set to "CAMERA".

CAUTIONS:
- The video light becomes extremely hot. Do not touch it either while in operation or soon after turning it off, otherwise serious injury may result.
- Do not place the VideoMovie into the carrying case immediately after using the video light, since it remains extremely hot.
- When operating, keep a distance of about 30 cm between the video light and people or object.
- Do not use near flammable or explosive materials.

Note:
Even if the battery warning indication (▭) does not appear in the viewfinder, if the battery pack's charge is low, the VideoMovie may turn off automatically when you turn on the video light, or when you start recording with the video light turned on.







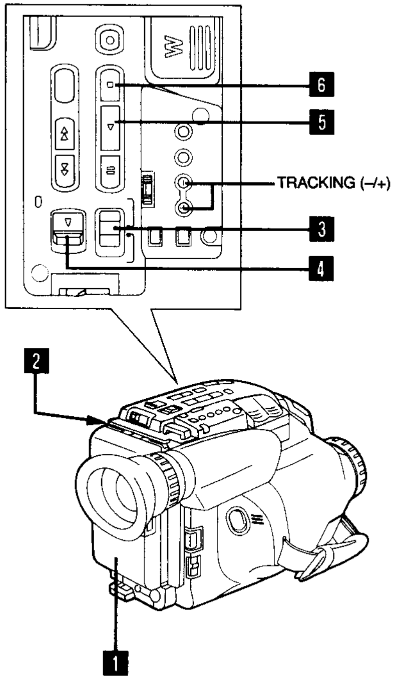
HOW TO REPLACE THE VIDEO LIGHT BULB

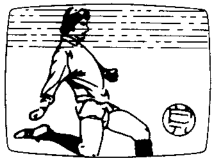
It is recommended to consult your nearest JVC dealer for replacing the bulb. However, if you wish to do it yourself, proceed as follows:

1 Turn and loosen the screw with a screwdriver.
2 Pull out the video light unit.
3 Turn the bulb unit counterclockwise to remove it.
4 Pull out the bulb.
5 Insert a new bulb. At this time, it is important to hold the bulb using a soft cloth. Do not touch the bulb directly.
6 Replace the bulb unit.
7 Reattach the video light unit and tighten the screw.

Notes:
- The video light unit and the bulb are very hot immediately after the power is turned off. Bulb replacement should be performed after it has cooled. (It will take approx. 30 minutes to cool sufficiently.)
- Do not touch the bulb directly. If it becomes dirty, smoke or reduced service life may result. When accidentally touched by fingers directly, wipe it with a soft cloth.
- Give the part number YQ20645-001 when ordering a video light bulb.
- Use the exclusive halogen bulb which is available at your nearest JVC dealer.

PLAYBACK





The VideoMovie permits playback of recorded "VHS-C" video cassettes.
For connections refer to pages 24 and 25.

PLAYBACK OPERATION

1. Preparations

1 Supply power. (Battery or AC operation: ☞ P.6 and 7.)

2 Insert a pre-recorded VHS-C cassette.
- Ensure that tape is not slack inside the cassette, then load the cassette correctly. ☞ P. 8.

2. To playback a cassette

3 Set PLAY/CAMERA to "PLAY".

4 Slide POWER to turn power on.
— The power indicator lights.

5 Press PLAY.
— Playback starts and playback picture appears on the viewfinder screen and connected TV.

3. To stop playback

6 Press STOP.
- After about 5 minutes in Stop mode, the VideoMovie switches itself off automatically.

REWIND OR FAST-FORWARD THE TAPE

Rewind the tape:
Press REW less than about 2 seconds in the Stop mode.

Fast-forward the tape:
Press FF less than about 2 seconds in the Stop mode.

For high-speed REW or FF the tape:
Press REW or FF more than about 2 seconds and release it.
— The elapsed time counter changes to "-:--:--".

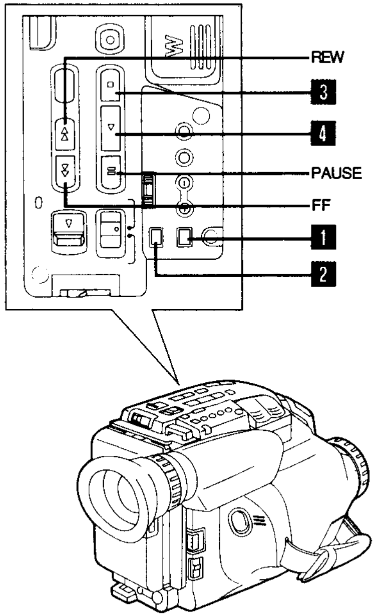
Note:
The elapsed time counter indication and counter memory function (☞P.23) do not function when using the high-speed REW or high-speed FF mode.

MANUAL TRACKING

If noise bars appear on the screen, the tracking needs to be adjusted.

1 Press either TRACKING to adjust to the best picture possible.
- When re-engaging the preset tracking standard, press both TRACKING (–/+) simultaneously.

Note:
For tapes recorded on another videocamera or VCR, tracking adjustment may not be effective.



STILL PLAYBACK

Press PAUSE during playback.
— The picture stops on the screen.
- After about 5 minutes of still playback, the VideoMovie enters the Stop mode automatically for tape protection and switches itself off.

SHUTTLE SEARCH

Fast-speed forward playback:
Press FF in the Play mode.
— Playback will be speeded up to 3 times normal speed.

Fast-speed reverse playback:
Press REW in the Play mode.
— The tape will be played back in the reverse direction at 3 times normal speed.

Notes:
- For brief fast-speed searching, keep FF or REW pressed for more than 2 seconds; when you release the button, the Search mode will be cancelled.
- Noise bars will appear and pictures may become monochrome while in Still Playback or Shuttle Search. This is not due to any defect of the unit.

COUNTER MEMORY FUNCTION

This VideoMovie incorporates a counter memory function which facilitates locating a specific tape segment.

1 Press C. RESET.
— Resets the counter to "0:00:00".

2 Press C. MEMORY. — "M" appears.

3 After recording or playback, press STOP, then REW.
— The tape will automatically stop at the counter reading of around "0:00:00".

4 Press PLAY. — Playback starts.

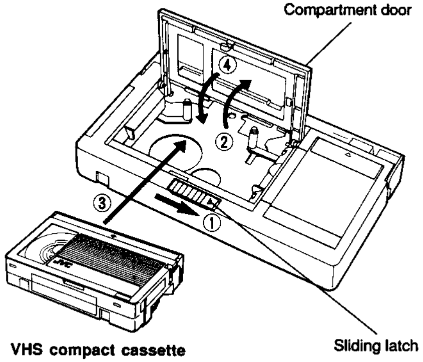
Notes:
- The counter memory function is effective in the Fast Forward mode as well.
- To cancel the memory function, press C. MEMORY so that "M" disappears.
- When the power supply unit is disconnected, the counter memory function is instantly cancelled.
- The counter memory function is not effective when using the high-speed FF or high-speed REW (☞ P.22).
- The counter memory function is not effective when the tape rewinds from the end: the VideoMovie automatically enters the high-speed REW mode, switching the counter indication to "-:--:--".

USING THE CASSETTE ADAPTER

By using the Cassette Adapter, a VHS-C video cassette recorded with this VideoMovie can be played back with any deck-type VHS video recorder. Also, a VHS-C video cassette installed in the cassette adapter is fully compatible for both recording and playback on any deck-type VHS video recorder.

Note:
Only compact video cassette tapes marked VHS C can be used with the Cassette Adapter.

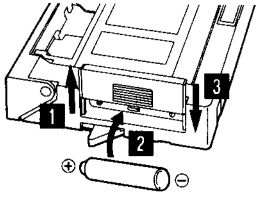
C-P6U Cassette Adapter
Being battery-operated, the C-P6U performs tape loading and unloading automatically.



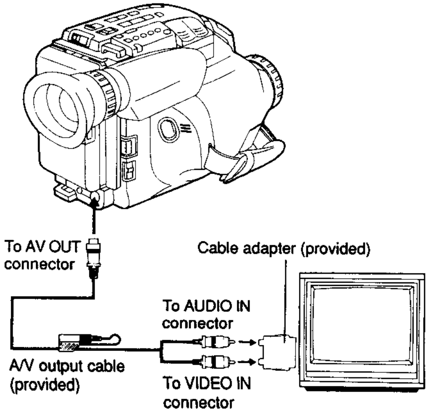
Note:
During special-effects playback (slow motion, still frame, etc.) the picture may vibrate or noise bars may appear on the screen.

Inserting the battery into the cassette adapter

1. Remove the battery cover by sliding it up.
2. Install one "R6" battery.
3. Reattach the cover.



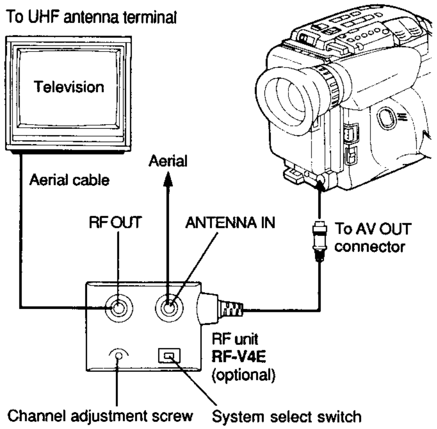
CONNECTIONS TO A TELEVISION FOR PLAYBACK



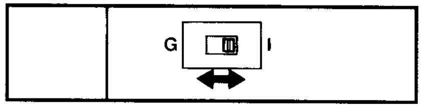
1 Connection to a television equipped with A/V input connector

For this situation, use the provided A/V output cable.

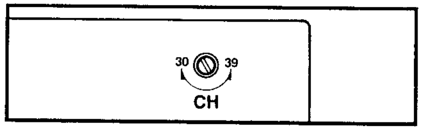
- Use the A/V output cable to simply connect the AV OUT connector of the VideoMovie to the AUDIO input and VIDEO input connectors of the TV.
- If your TV has the 21-pin AV input connector (SCART), use the provided cable adapter.
- Please also refer to the instruction manual of the TV you are connecting the VideoMovie to.



- **TV system select switch (I/G)**
When you use a TV receiver built on the British PAL standard, shift the system select switch to "I".



- **RF converter channel adjustment screw**
To make this adjustment, remove the small cap on the back of the RF unit and turn the adjustment screw with a screwdriver to tune in a vacant channel. The RF unit permits playback of video and audio recordings through a TV receiver. The signals from the RF unit are viewed through a vacant channel not used for broadcasting in your area. The output frequency of the RF converter has been set to correspond to a broadcast on UHF channel 36. To view playback pictures from the VideoMovie with your TV receiver, tune its specified AV channel to UHF channel 36. If channel 36 is employed for broadcasting in your area, readjust the RF converter output channel to one of the vacant channels between 30 and 39.



2 Connection to a television not equipped with A/V input connector

For this situation, use the optional RF unit.

1. Remove the aerial cable from the TV receiver.
2. Connect the aerial cable to the ANTENNA IN terminal of the RF unit.
3. Connect the RF OUT terminal of the RF unit to the aerial terminal of the TV receiver using the provided aerial cable.
4. Connect the VIDEO/AUDIO INPUT cable of the RF unit to the AV OUT connector of the VideoMovie.

PRECAUTIONS FOR RF UNIT

- For exclusive use with the VideoMovie.
- Do not disassemble or remodel the RF unit
- Do not expose it to strong shocks.
- Unplug the connected equipment during lightning storms. (Never touch the aerial cable.)

OPERATION

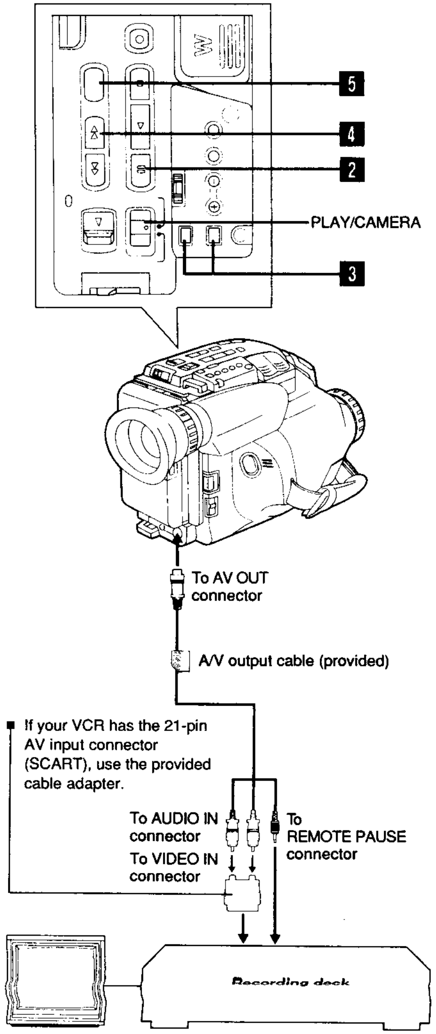
- **Viewing video cassettes being played back with the VideoMovie**
To view video cassettes or to monitor the recording, set the TV channel selector to the channel corresponding to the RF output channel.
- **RF converter channel adjusting procedure**
  1. Set the AV channel of the TV receiver to one of the vacant channels.
  2. Power the VideoMovie.
  3. Put the VideoMovie in the Rehearsal mode (see page 11).
  4. While monitoring the output signal on the TV screen, turn the RF converter channel adjustment screw to that the monitored picture comes in most clearly.

CAUTION:
To view the VideoMovie recordings with a TV receiver, use a TV receiver having a specified AV channel and employ this AV channel as your VIDEO CHANNEL, otherwise playback may be disturbed with vibrating or bending pictures. AV channels refer to channels exclusively for video playback; because AFC circuits are applied to these channels, the playback pictures can be stabilised. Recent TV receivers have one or more AV channels.

EDITING TECHNIQUES

MASTER EDIT CONTROL SYSTEM (Assemble Editing)
(When using a JVC VCR equipped with a Remote Pause terminal)

This feature functions only when using a designated JVC VCR equipped with a Remote Pause terminal. The Master Edit Control system enables control of the VCR via the VideoMovie's controls, for quality preroll editing without transition-point gaps and distortion. Please refer to the VCR's instruction manual also.

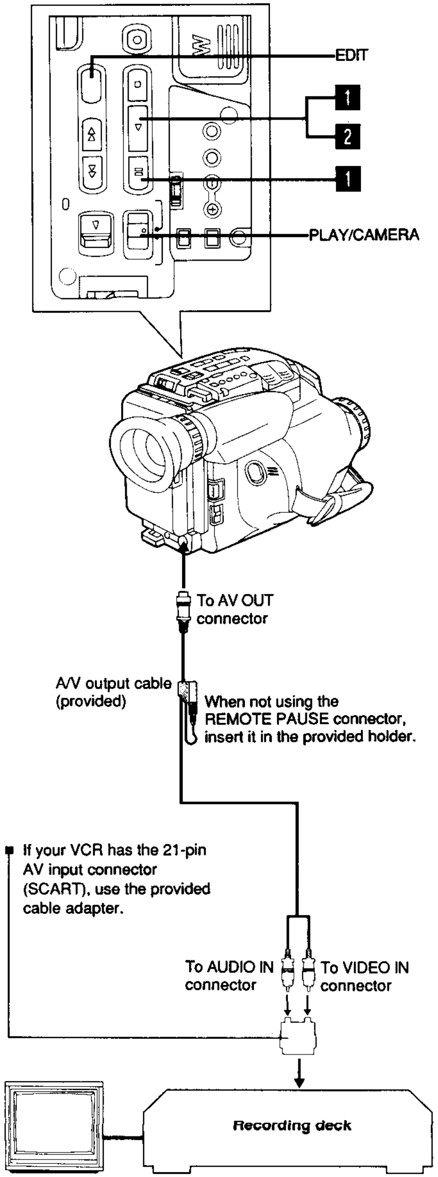

5
4
2
PLAY/CAMERA
3
To AV OUT connector
A/V output cable (provided)
If your VCR has the 21-pin AV input connector (SCART), use the provided cable adapter.
To AUDIO IN connector
To VIDEO IN connector
To REMOTE PAUSE connector
Recording deck

Preparation

- Connect the VideoMovie and the recording deck as in the diagram on the left.
- Turn on both the VideoMovie and the recording deck.
- Correctly insert the appropriate cassettes into the VideoMovie and the recording deck.
- Set PLAY/CAMERA to "PLAY".

1. Engage the recording deck's AUX(iliary) mode and Record-Pause mode.
   — The tape in the deck winds backward for 1.3 seconds.
2. Engage the VideoMovie's Play mode to locate the edit-out point on the tape. When this point is reached, press PAUSE.
3. Press C. RESET, then C. MEMORY.
   — "M 0:00:00" appears.
4. Press REW to locate the edit-in point. When it is reached, engage the Still mode.
5. Press EDIT to start editing.
   - The VideoMovie and the recording deck carry out the following procedure automatically.
     1) The VideoMovie prerolls the tape for 5 seconds then starts playback to stabilize the tape run.
     2) After the VideoMovie has played back for 3.7 seconds, it sends a command signal to the recording deck. The deck then starts playback together with the VideoMovie for 1.3 seconds.
     3) When the VideoMovie's tape reaches the edit-in point, the deck starts recording in synchronization with it.
6. When the VideoMovie's tape reaches the edit-out point (counter reading of "0:00:00"), the VideoMovie enters the Still mode and the recording deck enters in the Record-Pause mode automatically.
   - Repeat these steps as required.
   - When the tape reaches the preset edit-out point during the dubbing operation, it may stop slightly before or after the designated point on the tape.

Note:
There are some VCRs which are not compatible with the Master Edit Control system.


EDIT
1
2
1
PLAY/CAMERA
To AV OUT connector
A/V output cable (provided)
When not using the REMOTE PAUSE connector, insert it in the provided holder.
If your VCR has the 21-pin AV input connector (SCART), use the provided cable adapter.
To AUDIO IN connector
To VIDEO IN connector
Recording deck

TAPE DUBBING
(Dubbing to a second recorder)

In order to perform simple dubbing of an entire tape, proceed as follows. Please refer to the VCR's instruction manual also.

Preparations

- Make connections according to the diagram on the left.
- Turn on all components' power.
- Correctly insert the appropriate cassettes.
- Set PLAY/CAMERA to "PLAY".

1. Engage the connected recorder's AUX(iliary) mode and Record-Pause mode, and press the VideoMovie's PLAY and PAUSE together to engage its Pause mode.
2. Press the VideoMovie's PLAY and engage the connected recorder's Recording mode to start dubbing.
   — The VideoMovie starts playback; the recorder starts recording.
3. To edit out unwanted material, engage the recorder's Record-Pause mode.
   - If using with a JVC VCR equipped with a Remote Pause terminal, perform as follows:
     1) Make connections according to the diagram on the page 26.
     2) Engage the connected recorder's AUX(iliary) mode and Record-Pause mode.
     3) Press EDIT of the VideoMovie. The deck's recording begins in synchronization with the VideoMovie's playback start.

USING THE PROVIDED REMOTE CONTROL UNIT

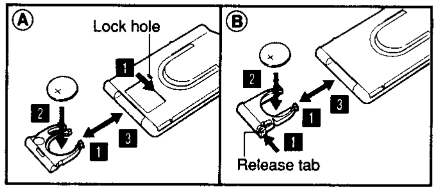
The RM-V704U Full-Function MBR (Multi-brand Remote) can operate this VideoMovie from a distance as well as the basic operations (PLAY, STOP, PAUSE, FF, and REW) of your VCR. This remote control unit is useful when dubbing from the VideoMovie to your VCR, and it makes additional recording functions possible.

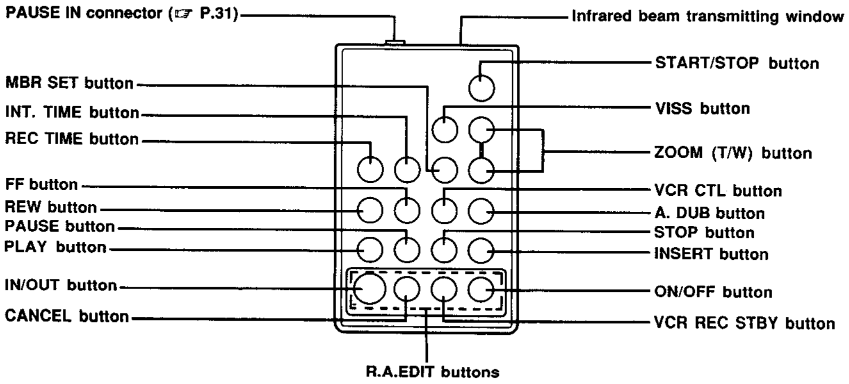
- Install a battery before using the remote control unit.
- Functions of the remote control unit's control buttons vary depending on the PLAY/CAMERA switch position.

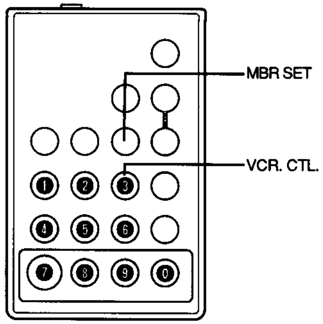
Buttons	Functions With the VideoMovie's PLAY/CAMERA set to "CAMERA".	 With the VideoMovie's PLAY/CAMERA set to "PLAY".
START/STOP	Functions same as the Recording Start/Stop button of the VideoMovie.	—
ZOOM(T/W)	Functions same as zoom T/W of the VideoMovie	—
VISS	Index code marking (☞ P.32)	—
REC TIME	Animation/Time lapse (☞ P.33)	—
INT. TIME	Self-Timer/Time lapse (☞ P.32, 33)	—
REW	Retake (Rewind)	Rew/Rew Shuttle Search
FF	Retake (Forward)	FF/FF Shuttle Search
PLAY	—	Playback start
PAUSE	—	Pause
STOP	—	Stop
A. DUB	—	Audio dubbing (☞ P.35)
INSERT	—	Insert Editing (☞ P.34)
R. A. EDIT	—	☞ P.30

Inserting the battery

1. Pull out the battery holder according to the type of remote control unit you have.
   Type Ⓐ : Pull out the battery holder while sliding the lock hole with a pointed instrument.
   Type Ⓑ : Pinch the release tab and pull out the battery holder.
2. Insert the lithium battery (CR2025), with its plus (+) side up, into the battery holder.
3. Replace the battery holder until it clicks in place.
   *Read warning on lithium battery. (☞ P. 2)


Ⓐ
Lock hole
1
2
1
3
Ⓑ
2
1
3
1
Release tab


PAUSE IN connector (☞ P.31)
Infrared beam transmitting window
MBR SET button
INT. TIME button
REC TIME button
FF button
REW button
PAUSE button
PLAY button
IN/OUT button
CANCEL button
START/STOP button
VISS button
ZOOM (T/W) button
VCR CTL button
A. DUB button
STOP button
INSERT button
ON/OFF button
VCR REC STBY button
R.A.EDIT buttons


MBR SET
VCR. CTL.
❶ ❷ ❸
❹ ❺ ❻
❼ ❽ ❾ ⓿

VCR CODE LIST

VCR BRAND NAME	BUTTONS (A) (B)
AKAI	❻ ❶ ❻ ❾ ❼ ❼
BLAUPUNKT	❶ ❽
FERGUSON	❾ ❼ ❾ ❻ ❽ ❼
GRUNDIG	❶ ❹ ❽ ❹
HITACHI	❻ ❻ ❻ ❽
JVC A	❾ ❶
B	❼ ❻
C	❽ ❻
MITSUBISHI	❽ ❼ ❻ ❹
NEC	❸ ❼ ❽ ❷
PANASONIC	❶ ❻ ❶ ❼ ❶ ❶ ❷ ❾ ❶ ❽

VCR BRAND NAME	BUTTONS (A) (B)
PHILIPS	❶ ❾ ❸ ❺ ❶ ❶ ❾ ❹ ❾ ❶ ❸ ❻ ❶ ❷ ❸ ❸
SANYO	❽ ❻ ❸ ❺
SELECO, REX	❾ ❶ ❾ ❻
SHARP	❶ ❺ ❶ ❸
SONY	❻ ❺ ❻ ⓿ ❸ ❾ ❸ ❶
THOMSON, TELEFUNKEN, SABA, NORDMENDE	❾ ❶ ❾ ❻ ❾ ❼ ❽ ❼
TOSHIBA	❻ ❾ ❺ ❶

IMPORTANT:
Although the MBR (Multi-Brand Remote Control) is compatible with JVC VCRs, as well as many VCR models manufactured by others, it is possible that this remote control will not work with your VCR or may offer limited functions.

A. To operate the VideoMovie

1. Turn the VideoMovie's power ON.
2. Press the button corresponding to the function you want to operate.

B. To operate your VCR

1 To set the remote control unit to correspond to the brand of your VCR:

Turn the VCR's power off before starting.

1. Point the remote control toward the VCR's infrared beam sensor window.
2. Refer to the list on the left, and while pressing MBR SET, press button (A), then press button (B).
3. Release MBR SET.

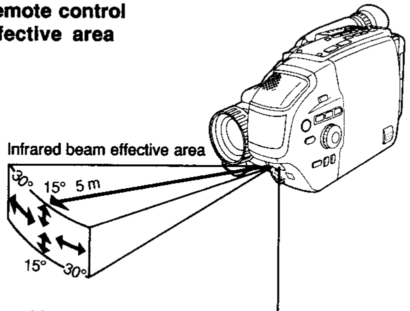
- The code is set and the VCR's power automatically comes on.
  If your VCR has more than one code, choose the code with which you can turn the VCR's power on.
  (With some VCR brands, power won't come on automatically. In this case, turn the VCR power on manually and check to see if the remote control buttons work with the VCR.)

2 To operate the VCR:

1. Turn the VCR's power ON.
2. Press the button on the remote control unit corresponding to the function you want to operate while pressing VCR CTL.

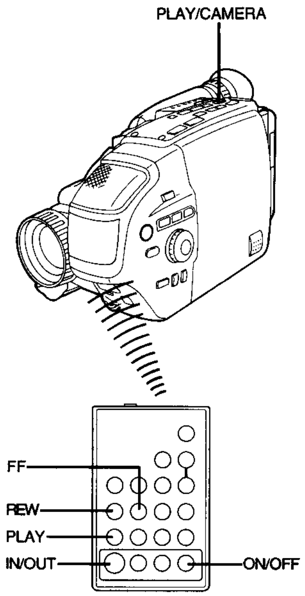
- Since the remote control unit has a number of operation codes, determine the appropriate code for operating your VCR by confirming correct VCR operations according to the steps above.
- The VCR functions that the RM-V704U can control are PLAY, STOP, PAUSE, FF, REW and VCR REC STBY. Among them, VCR REC STBY button doesn't need to be pressed along with VCR CTL.
- If the RM-V704U is not able to control the VCR, use the controls on the VCR.

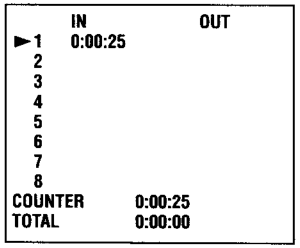
Remote control effective area


Infrared beam effective area
30°
15°
5 m
15°
30°

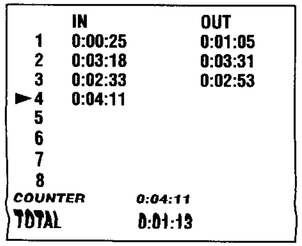
Infrared beam sensor window
Receives the transmitted beam signal.
*The transmitted beam may not be effective or may cause misoperations when the infrared beam sensor window is directly exposed to sunlight or powerful lighting.

USING THE PROVIDED REMOTE CONTROL UNIT (Cont'd)





```
       IN            OUT
►1     0:00:25
 2
 3
 4
 5
 6
 7
 8
COUNTER     0:00:25
TOTAL       0:00:00
```



```
       IN            OUT
 1     0:00:25       0:01:05
 2     0:03:18       0:03:31
 3     0:02:33       0:02:53
►4     0:04:11
 5
 6
 7
 8
COUNTER     0:04:11
TOTAL       0:01:13
```

RANDOM ASSEMBLE EDITING

The RM-V704U remote control unit offers a feature called Random Assemble Editing (R. A. Edit) which lets you pre-select up to 8 scenes to be automatically edited to a VCR. (The VCR must be controllable using this remote control, ☞ P.29).

Preparations:

- Connect the VideoMovie and the recording deck as per the diagram on the right (P.31).
  (Do not connect [A] or [B] yet.)
- VideoMovie: Correctly insert a recorded tape and set PLAY/CAMERA to "PLAY".
- VCR: Turn power on. Insert a recordable tape, and set to the AUX(iliary) mode. Refer to VCR's manual for details.

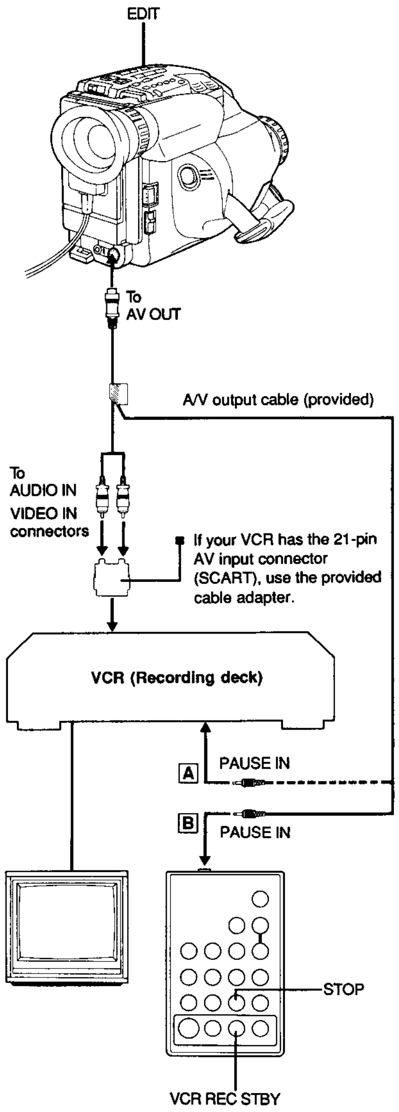
To select up to 8 scenes

1. Point the remote control toward the VideoMovie's infrared beam sensor window and press ON/OFF.
   - The R. A. Edit counter display will appear in the viewfinder.
2. Press PLAY.
   - The R. A. Edit counter display will appear on the TV screen.
3. Use FF or REW to search for the beginning of a scene you want, press IN/OUT.
   - The in-point's counter reading is registered on the display.
4. Use FF or REW to search for the end of the scene you want, press IN/OUT again.
   - The out-point's counter reading is registered on the display.
   - The "TOTAL" reading shows the total running time of the edited scenes.
5. Specify additional scenes by repeating steps 3 – 4.

Notes:

- For any scene, the out-point must have a counter reading that is at least 1 second after the in-point. An out-point with a counter reading less than or the same as the in-point will not be registered.
- Since the VideoMovie prerolls during R. A. Edit, there must be at least 15 seconds worth of recording material prior to any in-point on the playback tape.
- Blank portions of tape cannot be registered as in- or out-points.
- If the search time for an in-point exceeds 5 minutes, the recording deck's Record-Pause mode will be cancelled and editing will not take place.
- Pressing the ON/OFF button will clear all in- and out-points from memory.
- Do not press C. RESET during or after selecting the in/out points; this will reset the counter and cause R.A. Edit to function improperly.
- When editing, a slight discrepancy between the counter reading and actual in- and out-points may occur. Please position your in- and out-points with enough leeway so that segments will be rcorded in their entirety (not cut off).

(Continued on next page.)


EDIT
To
AV OUT
A/V output cable (provided)
To
AUDIO IN
VIDEO IN
connectors
■ If your VCR has the 21-pin AV input connector (SCART), use the provided cable adapter.
VCR (Recording deck)
A
PAUSE IN
B
PAUSE IN
STOP
VCR REC STBY

To make corrections

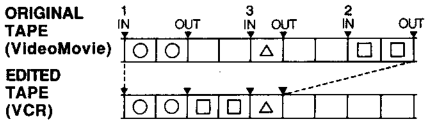
During steps 3 and 4 on the previous page, pressing CANCEL will erase the last in- or out-point. Pressing again will erase the point before that, and so on.

For automatic editing to a VCR

[A] If the recording deck is the JVC VCR that has a Remote Pause terminal, connect the A/V output cable's PAUSE connector to it.
[B] If the VCR does not have a Remote Pause terminal, connect the cable's PAUSE connector to the remote control's PAUSE IN jack.

1. Point the remote control toward the VCR's infrared sensor window and press VCR REC STBY.
   - Be sure that the VCR enters the Record-Pause mode. If not, use the controls on the VCR to enter the Record-Pause mode.

   Note:
   With some manufacturer's VCR's, pressing VCR REC STBY may not place the VCR into the Record-Pause mode.
2. Press the VideoMovie's EDIT.
   - The function begins automatic editing; all the scenes are copied to the VCR in the specified order.
   - Keep the remote control pointed toward the VCR's remote sensor window.
   - The on-screen display remains superimposed while the VideoMovie searches for each scene (the blinking cursor points to the scene number presently being searched), and is not displayed while the scenes are being edited.
   - When R. A. Edit is finished, the VideoMovie enters the Still mode and the VCR enters the Record-Pause mode. Press STOP on both units to end R. A. Edit.



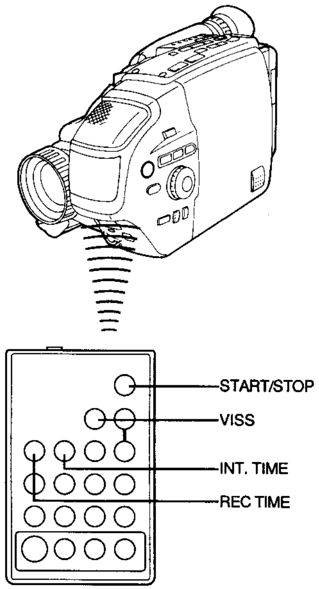
To dub the entire tape without any edits

To make a duplicate copy of the VideoMovie's tape, perform R. A. Edit by specifying only one in-point (and no out-point). R. A. Edit will automatically dub everything from that in-point to the end of the tape.

Note:
With some VCR models, there may be noise at the in- or out-points on the edited tape.

USING THE PROVIDED REMOTE CONTROL UNIT (Cont'd)

Viewfinder



INDEX CODE MARKING

The VHS Index Search System (VISS) gives you automatic access to any point you select on a recording. Only the marking aspect of the Index Search System is included in this unit. It allows index codes to be placed on recorded tape for convenient dubbing or editing on VCRs with an Index Search function.

1 Press VISS once to put an index code onto the tape.
— "INDEX" blinks during the marking process.

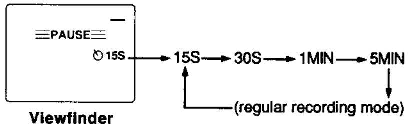
- When "INDEX" appears, no VideoMovie functions can be executed.
- If VISS has been pressed in the Record-Pause mode, an index code is put at the point where START/STOP is pressed.

SELF-TIMER

This Self-Timer function allows you to set the amount of time delay before recording starts after START/STOP has been pressed. If the VideoMovie has been secured, the operator can enter the picture before actual recording begins.

1 Put the VideoMovie into the Record-Pause mode.

2 Press INT. TIME to select the interval time.
— The following sequence of time setting is displayed with each press of INT. TIME:



Viewfinder

- If the VideoMovie's SELF-TIMER is pressed, the 15S mode will be selected.

3 Press START/STOP.

- When the selected time has elapsed, recording begins automatically.
- When performing Self-Timer shooting, the tally lamp will start blinking approximately 10 seconds before the actual recording begins. Then when recording starts, the lamp lights normally to indicate recording is in progress.

To release the Self-Timer mode:

When "–" is not blinking:
Press INT. TIME continuously until " ⏲ " goes off.
When "–" is blinking:
Press START/STOP to stop the blinking, then press INT. TIME continuously until " ⏲ " goes off.

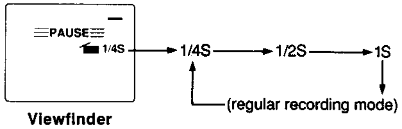
- Turning the power off and on once engages the regular Record-Pause mode.

ANIMATION

The Animation function produces the illusion of movement in otherwise stationary scenes or objects. This technique is accomplished by shooting a series of slightly different pictures of the same scene or slightly different poses of the same object for a brief period of time.

1 Put the VideoMovie in the Record-Pause mode.

2 Press REC TIME to select the recording time.
— The following sequence of time setting is displayed with each press of REC TIME:



Viewfinder

- If the VideoMovie's SELF-TIMER is pressed, Animation will be cancelled and the VideoMovie will enter the Self-Timer 15S mode.

3 Press START/STOP after focusing on the subject.

- Recording stops automatically in the Record-Pause mode after the selected period of time.

4 Repeat steps 2 - 3 for the required number of pictures.

5 Playback the recorded series to check if results were satisfactory.

To release the Animation mode:

Press REC TIME until " 🎥 " in the viewfinder disappears, or set PLAY/CAMERA to "PLAY".

- The Animation mode can only be engaged from the Record-Pause mode.

Notes:

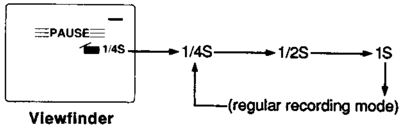
- Keep the VideoMovie steady in one position when filming the series of shots for best results. Mounting the VideoMovie on a tripod is recommended.
- Before recording in the Animation mode at the very beginning of a tape, set the VideoMovie to the Recording mode for about 5 seconds, so that the tape runs smoothly. Using the Fade-in function at this point is a good way to begin an animated programme.
- Fade-in/out is not possible while the Animation or Time-Lapse shooting.
- When shooting in the Animation mode, the elapsed time counter reading may be incorrect. This is not due to any defect of the unit.

TIME-LAPSE

The Time-Lapse function allows automatic sequential on/off recording at preset time spans. With the VideoMovie continuously focused on a specific scene or object, the resulting recording will show subtle changes (such as shifts in cloud formations, plant growth etc.) over an extended period of time.

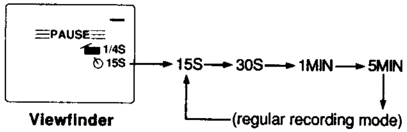
1 Put the VideoMovie into the Record-Pause mode.

2 Press REC TIME to select the recording time.
— The following sequence of time settings is displayed with each press of REC TIME:



Viewfinder

3 Press INT. TIME to select the interval time.
— The following sequence of time settings is displayed with each press of INT. TIME:



Viewfinder

4 Press START/STOP to start the Time-Lapse recording. The selected recording time and interval will alternate automatically.

- The tally lamp functions in the same way as in Self-Timer shooting.

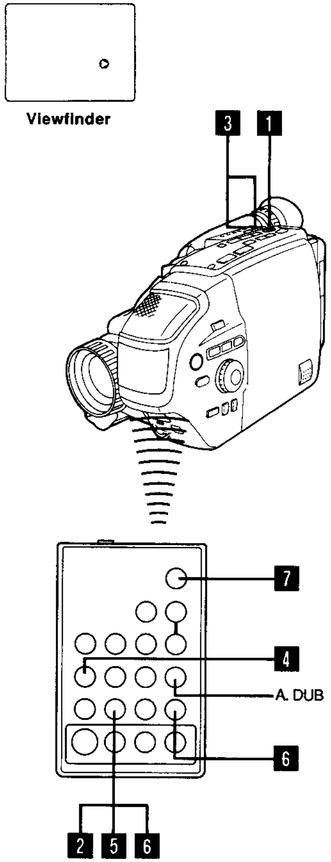
To release the Time-Lapse mode:

When "–" is not blinking:
Press INT. TIME and REC TIME continuously until " 🎥 " and " ⏲ " go off.
When "–" is blinking:
Press START/STOP to stop the blinking, then press the INT. TIME and REC TIME continuously until " 🎥 " and " ⏲ " go off.

Notes:

- When shooting in the Time-Lapse mode, the elapsed time counter reading may be incorrect. This is not due to any defect of the unit.
- During steps 2 or 3, if the VideoMovie's SELF-TIMER is pressed, the Self-Timer 15S mode will be engaged.

USING THE PROVIDED REMOTE CONTROL UNIT (Cont'd)



INSERT EDITING

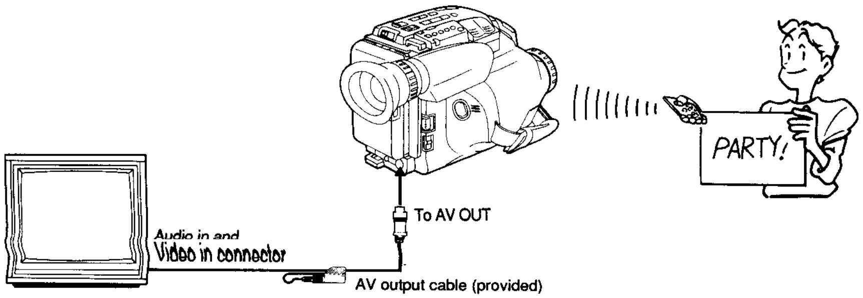
Insert editing means recording a new scene into a section of prerecorded tape so that a part of the original recording can be replaced with a new sequence without excessive picture distortion at the edit-in and edit-out points. In the Insert Editing mode, the original audio on the audio track remains unchanged.

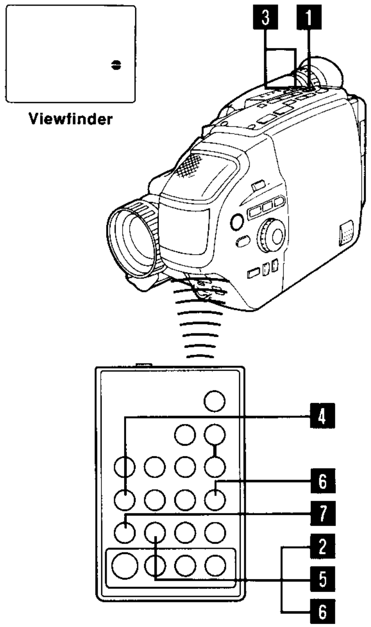
1. Set PLAY/CAMERA to "PLAY".
2. Locate the desired edit-out point on the tape and press PAUSE.
3. Press C. RESET, then C. MEMORY to obtain the "M" indication in the viewfinder.
4. Press REW to rewind the tape a little beyond the beginning of the scene you wish to insert.
5. Press PAUSE exactly at the beginning of the scene to insert.
6. While holding INSERT pressed, press PAUSE.
   — The VideoMovie enters the Insert Editing mode with the scene at which the VideoMovie is aimed appearing on the screen for monitoring.
7. Press START/STOP to insert the new sequence.

- When the counter reading of "0:00:00" is reached, insert editing stops automatically and the VideoMovie enters the Playback mode.

Notes:

- When in the Still mode, the counter indication may be blurred. This is normal.
- When the tape reaches the preset edit-out point during the editing operation, it may stop slightly before or after the designated point on the tape. Also, at that time, noise bars may appear momentarily. Neither of these is a defect of the unit.
- Only video signals are recorded in the Insert Editing mode. When the sound is to be recorded, press the A. DUB and PAUSE simultaneously in the Insert Pause mode. When INSERT and PAUSE are pressed simultaneously again, the unit re-enters the Video-signal-only Recording mode.





AUDIO DUBBING

Audio dubbing means recording a new soundtrack on a pre-recorded tape, i.e., replacing the original sound with new audio material.

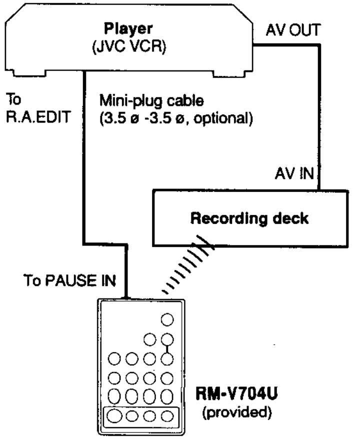
Precautions

- Tapes with their safety tabs removed cannot be audio dubbed. Reseal the safety tab slot to perform the dubbing.
- If whistling or howling is heard during audio dubbing, reduce the TV volume or move the mike farther away from the TV.

1. Set PLAY/CAMERA to "PLAY".
2. Locate the desired edit-out point on the tape and press PAUSE.
3. Press C. RESET, then C. MEMORY to obtain the "M" indication in the viewfinder.
4. Press REW to locate more quickly the place on the tape you want to begin.
5. Press PAUSE at the exact beginning point.
6. While pressing A. DUB, press PAUSE to enter the Audio Dub Standby mode.
7. Press PLAY. — Audio dubbing begins.

- When the counter reading of "0:00:00" is reached, audio dubbing stops automatically and the VideoMovie enters the Playback mode.

SUPPLEMENTAL INFORMATION ON THE PROVIDED REMOTE CONTROL



Using the provided RM-V704U remote control, it is also possible to perform deck-to-deck Random Assemble Editing. The playback deck must be an R.A. Edit-capable JVC VCR. The recording deck can be...

- a VCR other than JVC, or
- a JVC VCR which does not have a Remote Pause terminal.

How to use:

— Connect the playback deck and RM-V704U as shown on the left.

— Set the RM-V704U to correspond to the brand of the recording deck. (☞ P. 29)

— For Random Assemble Editing procedure, please refer to the instruction manual of the JVC VCR you are using as the playback deck.

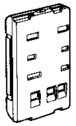
Notes:

- RM-V704U cannot be used to control the playback deck.
- RM-V704U is capable of controling basic operations of the recording deck. While pressing VCR CTL, press PLAY, STOP, PAUSE, FF or REW for these functions. (Not possible with some brands and models). Other buttons cannot be used.
- To put the recording deck in the Record-Pause mode, use the controls on the recording deck itself.

SYSTEMS FLEXIBILITY

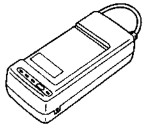
For maximum enjoyment, make the most of the provided or optional accessories depending on the situation.

- **Battery pack**
  BN-V12U
  BN-V14U
  BN-V22U
  BN-V50U
  BN-V60U



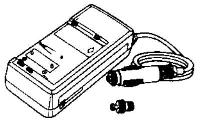
*Recording time ☞ P. 6

- **AC power adapter/battery charger AA-V11EG**
  Charges or discharges battery pack or powers the VideoMovie via household AC current. (Can be used with 110 V to 240 V.)



*Charging time ☞ P. 6

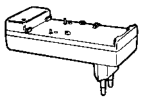
- **Car battery charger BH-V3E**☆
  Charges battery pack or powers the VideoMovie via a car battery. (Use with 12 V or 24 V nagative grounded cars only.)



*Charging time

BN-V12U	Approx. 50 min.
BN-V14U	Approx. 55 min.
BN-V22U	Approx. 90 min.
BN-V60U	Approx. 90 min.

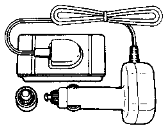
- **Battery charger BH-VC10EG**☆
  Use to charge the battery pack.



*Charging time

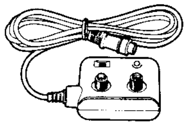
BN-V12U	Approx. 7 hour
BN-V14U	Approx. 8 hour
BN-V22U	Approx. 13 hour
BN-V60U	Approx. 13 hour

- **Car battery cord AP-V6E/V7E**
  Power the VideoMovie via a car battery. (Use with 12 V negative grounded cars only.)



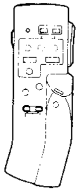
*Cable length: 2 m

- **RF unit RF-V4E**
  Use to connect the VideoMovie to a regular television for play-back.



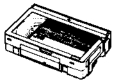
*Cable length: 1.5 m

- **Wired remote control unit RM-V20U**
  Controls VideoMovie's functions (POWER ON/OFF, REW, FF, STOP, PLAY, PAUSE, INSERT, AUDIO DUB, REC TIME, INTERVAL, VISS, START/STOP, ZOOM T/W) from a distance, and from any direction.

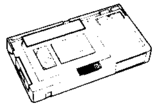


*Cable length: 3 m

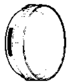
- **Compact VHS (VHS-C) cassettes EC-45/30**
  Allows 45/30 minutes of VHS recording and playback respec-tively.



- **Cassette adapter C-P6U**
  Enables the VHS-C cassette to be used with regular VHS machines.

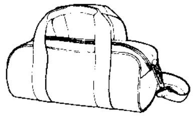


- **Conversion lens kit GL-V10U**
  Offers telephoto (1.4x) and wide-angle (0.6x) conversion.



- **Shoulder strap VU-V220U**

- **Active carrying bag CB-V7U**



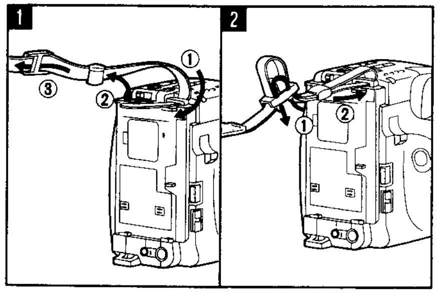
*Dimensions (WxHxD): 340 x 170 x 155 mm

☆The BN-V50U battery pack is not rechargeable with the BH-V3E and the BH-VC10EG.

*The VC-V8961SE A/V output cable is not usable with the GR-AX75EG. Use the provided A/V output cable or the optional VC-V896E. (R.A. Edit is not possible with the VC-V896E.)

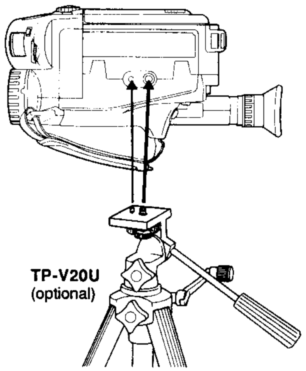
Some accessories are not available in some areas.

USING ACCESSORIES



ATTACHING THE SHOULDER STRAP

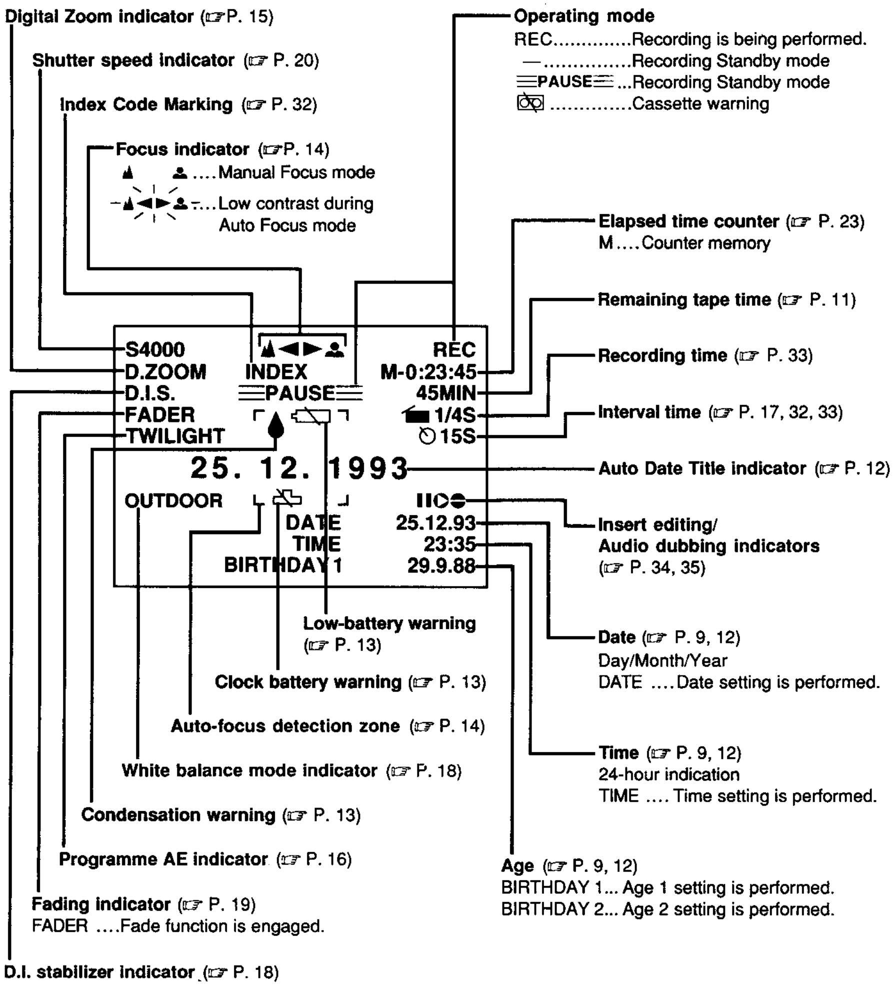
1. Loop the end of the strap over the top of the eyelet ①, then, folding it back, thread the end of the strap first through the keeper ②, then the buckle ③. Making sure that the strap is not twisted, repeat the above procedure to attach the other end of the strap to the other eyelet.
2. Adjust the shoulder strap to the desired length ①, then slide both keepers up snug against the eyelets to prevent the strap from slipping ②.



TRIPOD MOUNTING

Align the screw and camera direction stud of the tripod with the camera's tripod mounting socket and stud hole, and firmly tighten the screw.

VIEWFINDER INDICATIONS



Digital Zoom indicator (☞P. 15)

Shutter speed indicator (☞ P. 20)

Index Code Marking (☞ P. 32)

Focus indicator (☞P. 14)
▲ ♟ .... Manual Focus mode
–▲◀▶♟–... Low contrast during Auto Focus mode

Low-battery warning (☞ P. 13)

Clock battery warning (☞ P. 13)

Auto-focus detection zone (☞ P. 14)

White balance mode indicator (☞ P. 18)

Condensation warning (☞ P. 13)

Programme AE indicator (☞ P. 16)

Fading indicator (☞ P. 19)
FADER .... Fade function is engaged.

D.I. stabilizer indicator (☞ P. 18)

Operating mode
REC.............Recording is being performed.
—...............Recording Standby mode
≡PAUSE≡...Recording Standby mode
⊠ ....Cassette warning

Elapsed time counter (☞ P. 23)
M .... Counter memory

Remaining tape time (☞ P. 11)

Recording time (☞ P. 33)

Interval time (☞ P. 17, 32, 33)

Auto Date Title indicator (☞ P. 12)

Insert editing/ Audio dubbing indicators (☞ P. 34, 35)

Date (☞ P. 9, 12)
Day/Month/Year
DATE .... Date setting is performed.

Time (☞ P. 9, 12)
24-hour indication
TIME .... Time setting is performed.

Age (☞ P. 9, 12)
BIRTHDAY 1... Age 1 setting is performed.
BIRTHDAY 2... Age 2 setting is performed.

ON-SCREEN DISPLAY

The viewfinder indications can also be displayed on the screen of a monitor connected to the VideoMovie.

- Connect the VideoMovie to a video monitor. Press MODE to select the On-Screen Display mode. The viewfinder indications appear on the monitor screen. (☞ P. 12.)
- *In the On-Screen Display mode, Date/Age will be displayed.*
- *The on-screen display is available in the Rehearsal or Record-Pause mode.*

HELPFUL TERMS AND INFORMATION

The following glossary is for your convenience in helping you better understand your VideoMovie and its operation.

AGC (Auto Gain Control):
Automatically increases camera sensitivity when the illumination falls below a certain level.

Age insertion:
Permits recording of the age of a subject while shooting live events. Ideal for chronicling events like anniversaries, birthdays, etc.

Animation:
By shooting the same inanimate subject repeatedly with slight variations each time, the illusion of motion can be created.

Audio dubbing:
Allows you to replace only the linear audio portion in a previously recorded scene (for adding narration, etc.).

AUX mode:
Refers to Auxiliary mode. When the VideoMovie is connected to a VCR for editing or dubbing, the VCR should be set to this mode.

AV:
Short for Audio/Video. Often refers to the audio (sound) and video (picture) signals which, when combined, make up a programme.

CCD (Charge Coupled Device):
Solid-state imaging device used in VideoMovies as the camera's image pickup; analogous to the eye's retina except that picture information is output as electric signals.

Cinema mode:
"Letterboxes" live recordings (blacks out the top and bottom of the screen) to give scenes recorded on a VideoMovie a "wide screen" effect.

Colour temperature:
A measurement in Kelvin degrees which indicates the colour contents of a light source; bluish light has a higher colour temperature than reddish light. To reproduce white as white under different types of lighting, the chrominance signal must be adjusted to match the light source's colour temperature. (See "White balance".)

D.I. Stabilizer (Digital Image Stabilizer):
This function compensates for the effects of camera-shake which can become particularly noticeable at high zoom ratios.

Digital zoom:
This function offers double the magnification of normal zoom. (Maximum approx. 20x).

Exposure Control:
This feature lets you adjust the camera's iris to fine-tune a scene's brightness as you like.

Head:
An electronic component which "writes" or "reads" video signals on the tape.

High-speed shutter:
Normally the CCD transmits picture information every 1/50 second. A high-speed shutter makes it possible to use only a small portion of electric charges accumulated in each 1/50 segment, to reduce picture blur, or to obtain crystal-clear stills of moving objects in playback on a VCR equipped with Still or Slow Motion mode.

HQ (High Quality):
An enhancement feature in the VCR circuitry which provides greater picture detail.

Lithium battery:
Necessary for VideoMovie's clock and date/time/age settings, and for use of the RM-V704U Remote Control Unit. Use only Panasonic (Matsushita Electric) CR2025.

Master Edit Control:
Lets a VideoMovie control the starting and stopping of a VCR during editing for accurate, synchronized editing at the touch of a single button.

On-screen display:
The viewfinder indications can also be displayed on the screen of a monitor or TV that's connected to the VideoMovie.

Programme AE with Special Effects:
A variety of creative shooting effects (Portrait, Twilight, Monotone, etc.) are accessible.

Quick review:
Permits reviewing of the final part of the last recorded segment in the Record-Pause mode.

R.A.Edit (Random Assemble Editing):
This feature lets you pre-select up to 8 scenes to be automatically rearranged and edited to a connected VCR.

Refresh:
A feature on the AC power adapter that lets you completely discharge the power from the battery pack before charging again. Contributes to longer battery life.

Retake:
Permits forward or reverse search in the Record-Pause mode for easy re-recording.

Self-timer:
Enables a VideoMovie to automatically start recording after a selected delay time so the operator can enter the picture before actual recording begins.

Time-lapse:
Permits automatic on/off sequential recording at preset intervals. Used to capture changes over long periods of time.

Tracking:
A mechanism enabling the tracking position to be adjusted during playback so that the heads can accurately pick up the recorded signal in the best condition.

Tally lamp:
Lights to show that recording is in progress.

VCR:
Short for Video Cassette Recorder.

White balance:
A term that refers to the correctness of color reproduction under various lighting. If the white balance is correct, all other colours will also be accurately reproduced.

CAUTIONS

For safety, strictly observe the following instructions.

- Do not open the VideoMovie's chassis.
- Prevent inflammables, water and metallic objects from entering the unit.
- Do not disassemble or modify the unit.
- Do not use the unit when there is lightning in the vicinity. Disconnect the power cable of connected equipment.

Avoid using the unit under the following conditions:

- Places subject to excessive humidity or dust.
- Near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
- Places subject to soot or steam such as near a cooking stove.
- Places subject to excessive shock or vibration.
- Near a television set (rolling pictures or howling might result).
- Extremely hot places.

Do not expose the unit to high temperatures over 40°C for long periods.

If the unit should be subjected to direct sunlight, or left in a closed car in summer, or placed near a heater, the CCD and the auto-focus sensor may deteriorate and the cabinet may become deformed. Furthermore, this also may cause the transistors and other electronic and mechanical parts to malfunction. Remember the following:

- Do not leave the unit in places of over 50°C
- Do not use the unit in places of over 40°C
- Do not use the unit in places of below 0°C
- Protect the unit from excessively dry or humid conditions (below 35% or above 80% humidity).
- For long storage, select a place between –20°C and 30°C

Take special care for protection of the unit.

- Do not allow the unit to become wet.
- Do not leave the unit in closed cars on hot summer days.
- Take special care not to drop the unit or strike it against hard objects. Protect from shocks during transportation.

Be careful when using the video light.

- The video light becomes extremely hot. Do not touch it either while in operation or soon after turning it off, otherwise serious injury may result.
- Do not place the VideoMovie into the carrying case immediately after using the video light, since it remains extremely hot.
- When operating, keep a distance of about 30 cm between the video light and people or object.
- Do not use near flammable or explosive materials.

Make it a rule to observe the following instructions.

- Do not remove the battery pack or disconnect other power supply units during recording or playback before setting the power switch to OFF. If not observed, this will cause tape damage and misoperation.
- When the unit is not in use, remove the battery pack.

Always keep the lens and viewfinder eyepiece clean.

- When the lens is dirty or dusty, blow it with a blower brush and then gently wipe with lens cleaning paper.
- Mold may form if the lens is left dirty.

Be careful not to damage the CCD.

- Do not keep the lens directed at extremely bright objects such as the sun or other light sources for long periods. Although the CCD is less susceptible to such burn than a tube would be, caution should be exercised when using this unit. Most importantly, the lens should be capped except while actually shooting.
- Do not direct the eyepiece of the viewfinder at the sun.

Handle the unit carefully.

- Protect the microphone from excessive shocks.
- Do not carry the unit by holding it only by the viewfinder.

Moisture condensation.

- You have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass's outer surface. This same phenomenon occurs on the head drum of a VideoMovie when it is moved from a cool place to a warm place, after heating a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the VideoMovie itself.
- If moisture condensation occurs on the head drum, a condensation warning appears in the viewfinder and the unit enters the Stop mode, unable to function. In such a case, wait for a few hours until the indicator disappears.

Maintenance

- When the VideoMovie's exterior is dusty, clean it by gently wiping with a soft cloth.
- Avoid using of strong cleaning agents such as benzine or alcohol as they may damage the exterior.
- Cleaning should be done only after the battery pack has been removed or other power units have been disconnected.

Serious malfunctioning

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

General Battery Precautions

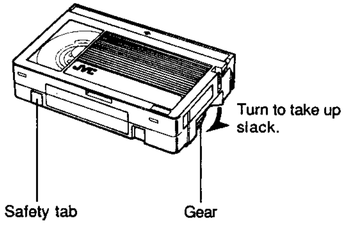
- When the RM-V20U/C-P6U is not functioning even when correctly operated, the batteries are exhausted. Repalce them with fresh batteries.
- Use only following batteries in the unit.
  RM-V20U ....R03 (AAA) size
  C-P6U............................R6 (AA) size

Please make note of the followiing rules for battery use. When misused, batteries can leak or explode.

1. Insert the batteries correctly according to the diagram inside the battery section.
2. Do not use old and new batteries together.
3. Do not use two different kinds of batteries Although sizes may be the same, voltages may differ.
4. Do not expose batteries to excessive heat as they can leak, or explode. Do not dispose of batteries in a fire.
5. Remove batteries from the unit if it is to be stored for an extended period to avoid battery leakage which can cause malfunctions.

VIDEO CASSETTES

- The VideoMovie employs only the cassettes carrying the VHS-C mark.
- *Recording onto prerecorded tapes automatically* erases the previously recorded video and audio signals.
- An inverted cassette cannot be inserted.
- Do not load and unload the cassette repeatedly without allowing the tape to run at all. This will slacken the tape and thereby damage it.
- Make certain before loading the cassette that the tape is not slack. If there is any slack, turn the gear on the cassette in the direction of the arrow to take up slack.
- The cassette is equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording is impossible. If you wish to record on a cassette whose tab has been removed, use adhesive tape to reseal the slot.
- To avoid excessive exposure to dust and fingerprints, do not open the front tape cover.



Storage of cassettes

- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid storing the cassettes in humid or dusty places.
- Do not drop the cassettes. Do not expose them to violent vibrations or shocks.
- Do not expose the cassettes to strong magnetic fields (near a motor, transformer or magnet).
- Place the cassettes in cassette cases and position them vertically.

IN CASE OF DIFFICULTY

What may initially appear to be trouble is not always a real problem. Make sure first...

Symptoms	Check points
Power	
No power is supplied.	■ Is the battery pack correctly installed? ■ Is the battery pack charged? ■ Is the power supply unit correctly connected?
Recording	
Recording is impossible.	■ Check to see if the cassette safety tab in place. ☞ P. 41.
Recording does not start.	■ Have you set PLAY/CAMERA to "CAMERA" first?
Playback	
Tape is running, but no playback picture appears.	■ Is the TV receiver set to your video channel? ■ If A/V connection is used, is the TV's VIDEO/TV switch set to VIDEO? ■ Is the RF unit set to the correct channel?
Noise bars appear in the playback picture.	■ Use TRACKING to reduce noise bars.
Playback picture is blurred or interrupted.	■ Video heads may be dirty or worn out. For head cleaning or replacement, consult the nearest JVC Service Dealer.
Tape transport	
Tape stops during fast forward or rewind.	■ Is the "M" indication visible in the viewfinder? If so, press C. MEMORY to cancel the memory function.
Rewinding or fast forwarding is impossible.	■ Check to see if the tape has already been fully wound on one reel or the other.
Other	
Vertical white lines appear when shooting a very bright object.	■ This may occur when the background contrasts very much with the object. This is normal.
Image "flicker" occurs when shooting under fluorescent lighting.	■ Try setting the shutter speed at 1/60s. ☞P.20.
The picture is too bright or too dark.	■ Check the position of the EXPOSURE CONTROL dial ☞P.17.
Error number (E01, etc.) appears in the viewfinder.	■ Consult your nearest JVC Service dealer.

The VideoMovie is a microcomputer-controlled device. External noise and interference might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC power adapter, etc.) and clock battery; and then reconnect it and proceed as usual from the beginning.

Special note on head cleaning

Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Although this VideoMovie is equipped with a built-in head cleaner which automatically cleans the heads, reducing the likelihood of dirty heads, if such troubles are encountered, please consult your nearest JVC dealer.

- A built-in head cleaner automatically cleans the video heads and head drum whenever a cassette is loaded and unloaded to reduce head clogging.

SPECIFICATIONS

Format : VHS PAL standard
Power source : DC 6 V ⎓
Power consumption : 7 W (Light off)
10 W (Light on)
Signal system : PAL-type
Video recording system : Luminance: FM recording
Color: Converted sub-carrier direct recording
Conforms to VHS standard
Cassette : VHS C cassette
Tape speed : 23.39 mm/sec
Recording time
Max. : 45 minutes
(with EC-45 cassette)

VIDEO

Output : 1 Vp-p, 75 ohms, unbalanced
(via AV OUT connector)

AUDIO

Output : –6 dBs, 1 k-ohm
(via AV OUT connector).

CAMERA

Pick up : 1/3"-format CCD
Minimum required illumination : 4 lux
(F1.8)
Illumination range : 4 to 100,000 lux
Lens : F1.8, f = 6 to 60 mm,
10:1 power zoom lens with auto iris and macro control, filter diameter 43 mm
Viewfinder : Electronic viewfinder with 0.6" black/white CRT
Selectable high-speed shutter : Switchable (1/50, 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000 second)
White balance adjustment : Auto/Manual

GENERAL

Operating temperature : 0°C to +40°C
Operating humidity : 35% to 80%
Storage temperature : –20°C to +50°C
Weight : Approx. 720 g
Dimensions : 184(W) x 120(H) x 111(D) mm
(incl. viewfinder)

AC POWER ADAPTER/BATTERY CHARGER (AA-V11EG) SPECIFICATIONS

Power requirement : AC 110 to 240 V∿,
50/60 Hz
Power consumption : 23 W
Output : DC 8.5 V ⎓, 1.3 A
(CHARGE),
DC 6.3 V ⎓, 1.8 A
(VTR)
Charging system : Constant current, peak detection, timer controlled
Dimensions : 150(W) x 42(H) x 68(D) mm
Weight : Approx. 350 g

CASSETTE ADAPTER (C-P6U) SPECIFICATIONS

Dimensions : 188(W) x 25(H) x 104(D) mm
Weight : Approx. 240 g
Accessory : "R6"-size battery x 1

PROVIDED ACCESSORIES

AC power adapter/battery charger AA-V11EG
Battery pack BN-V12U
A/V output cable
Cable adapter
Lithium battery...CR2025
Remote control unit...............................RM-V704U
Cassette adapter..C-P6U
Shoulder strap..................................... VU-V220U

For optional accessories, ☞ P. 36

E.&O.E.Design and specifications subject to change without notice.

SECTION 1
DISASSEMBLY

1.1 SERVICE CAUTIONS

1.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. In general, chip parts such as resistors, shorting jumpers (0-ohm resistor), ceramic capacitors, diodes, etc. can not be reused after they were once removed.
4. When installing parts, be careful not to do with other parts as well as not to damage others.
5. When removing ICs, be careful not to damage circuit patterns.

1.1.2 How to read the disassembly and assembly

(For Cabinet Parts)

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	CASSETTE COVER	C1	(S1) PUSH BUTTON	<NOTE1>
②	OPERATION UNIT	C2	(S2), 5(S9) *CONNECTORⒶ	<NOTE 2> <NOTE 3>
③	HOOD	C3	(S2)	<NOTE 4>

①　②　③　④　⑤

① : Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

② : Part to be removed or installed.

③ : Fig. No. showing Procedure or Part Location.
C = Cabinet
CA = Camera
D = Deck

④ : Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.
2(S1) = 2 Screws (S1)

⑤ : Adjustment information for installation.

1.1.3 Connection of the wires

1. Pull the connector structure upward to release the clamp when removing or inserting the flat wire cable.

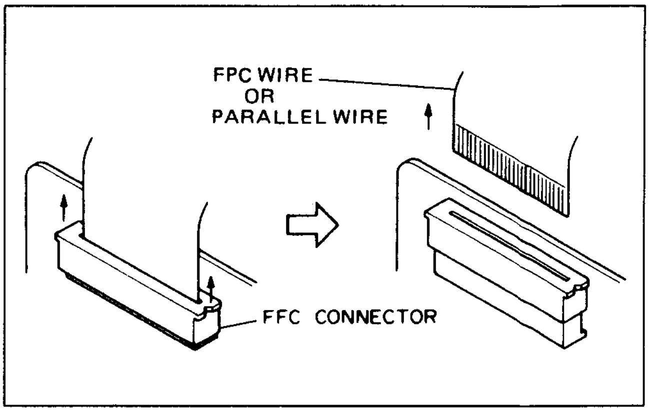


Fig. 1 TYPE A

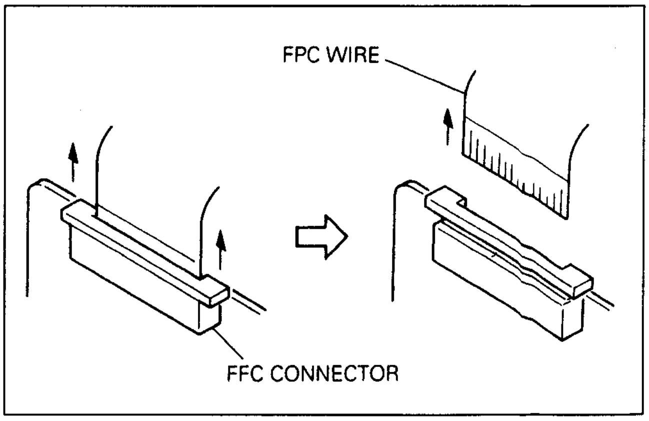


Fig. 2 TYPE B

2. Depress the connector structure downward to release the clamp when removing or inserting the flat wire cable, as indicated below.

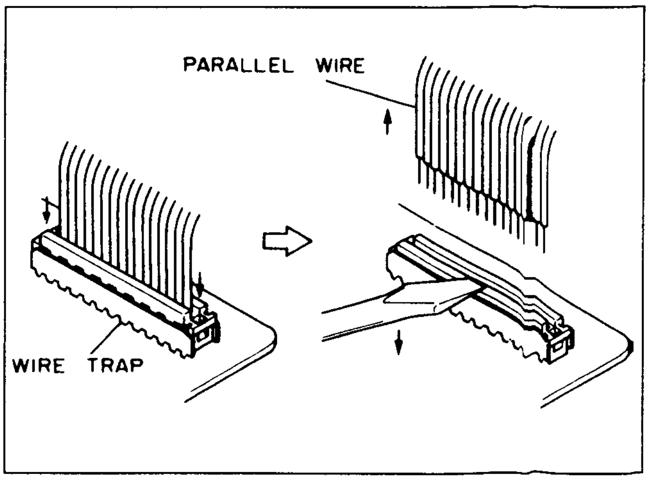


Fig. 3

1.1.4 Main screws to deal with disassembly/assembly

Table 1-1-1 lists screws by their symbols correspond to those shown in figures of this section "Disassembly"

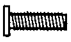
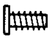
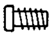
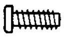
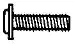
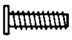
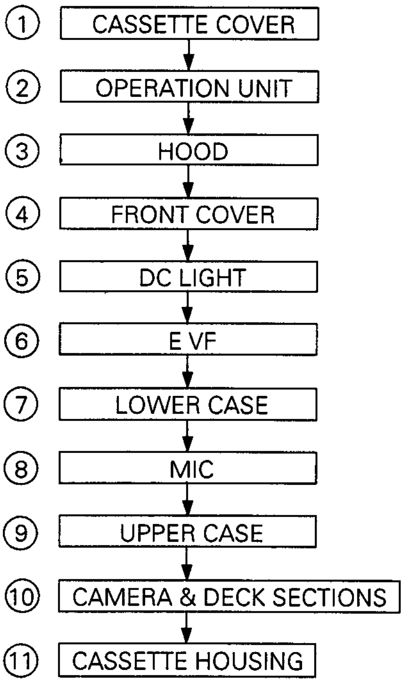
SYMBOL OF SCREW	SHAPE	PART NUMBER
S1		YQM30032-48
S2		YQM30032-2-2
S3		SPSF2005M
S4		SPSH1725M
S5		SPSF2005Z
S6		SPSF2006Z
S7		YDM4031-2
S8		SPSH1720M
S9		YQM30032-4-2
S10		SPSF2004Z
S11		YQM30032-40
S12		SSSH1730M

Table 1-1-1

1.2 DISASSEMBLY/ASSEMBLY OF CABINET PARTS

1.2.1 Disassembly flow chart

This flowchart indicates the disassembly step for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.


① CASSETTE COVER
② OPERATION UNIT
③ HOOD
④ FRONT COVER
⑤ DC LIGHT
⑥ E VF
⑦ LOWER CASE
⑧ MIC
⑨ UPPER CASE
⑩ CAMERA & DECK SECTIONS
⑪ CASSETTE HOUSING

1.2.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	CASSSETTE COVER	C1	2(S1) *PUSH BUTTON	<NOTE 1>
②	OPERATION UNIT	C2	(S2), 5(S9) *CONNECTOR	<NOTE 2> <NOTE 3>
③	HOOD	C3	(S2)	<NOTE 4>
④	FRONT COVER	C3	3(S2) *KNOB(SCENE SELECT)	– <NOTE 7>
⑤	DC LIGHT	C3	(S3)	<NOTE 5>
⑥	E VF	C4	2(S2) *CONNECTORⒷ	<NOTE 2>
⑦	LOWER CASE	C5	8(S2)	–
⑧	MIC	C6	*CONNECTORⒸ	<NOTE 2>
⑨	UPPER CASE	C7	4(S2) *CONNECTORS Ⓓ–Ⓖ	<NOTE 2>
⑩	CAMERA & DECK SECTION	C8	3(S5) *CONNECTORS Ⓗ,Ⓙ	<NOTE 2>
⑪	CASSETTE HOUSING	C9	4(S12)	<NOTE 6>

List of Abbreviations:

4(S1) = 4 Screws (S1)
3(L1) = 3 Locking Tabs (L1)
3(SD1) = 3 Solder position (SD1)
3(K1) = 3 Positioning pins (K1)
2(P1) = 2 Springs (P1)
2(W) = 2 Washers (W1)

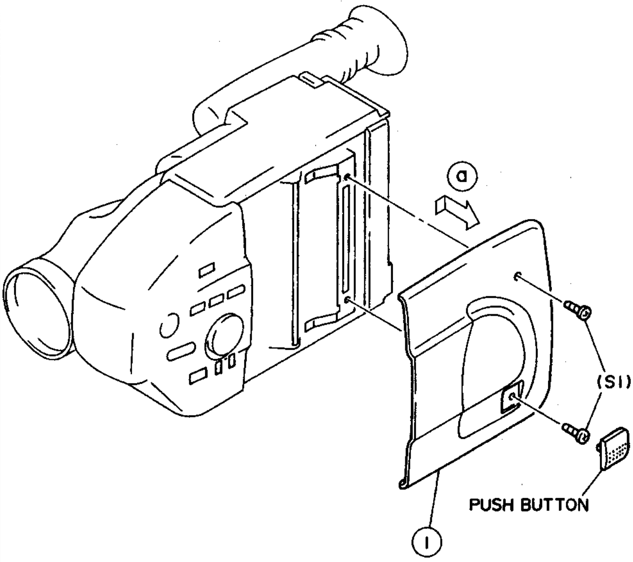

a
(S1)
PUSH BUTTON
1

Fig. C1

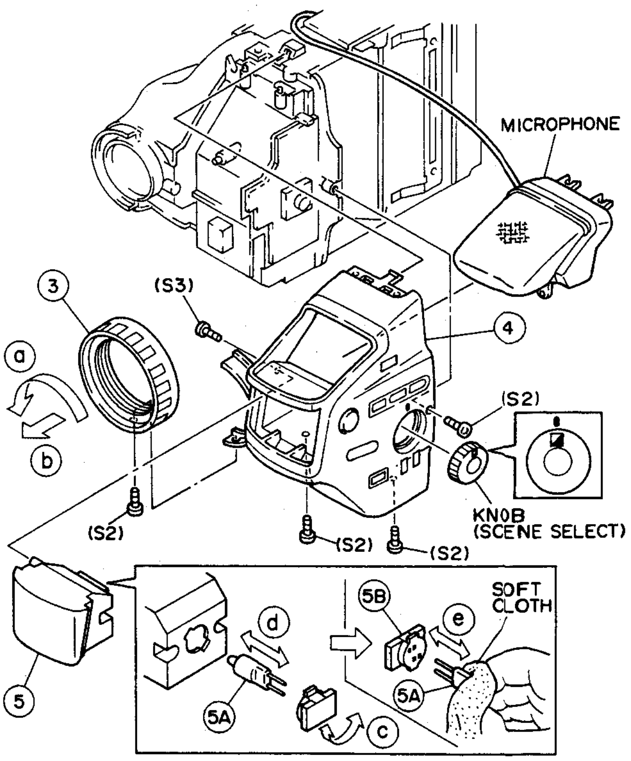

MICROPHONE
3
(S3)
4
a
b
(S2)
(S2)
(S2)
(S2)
KNOB
(SCENE SELECT)
5
d
5A
5B
e
SOFT CLOTH
5A
c

Fig. C3

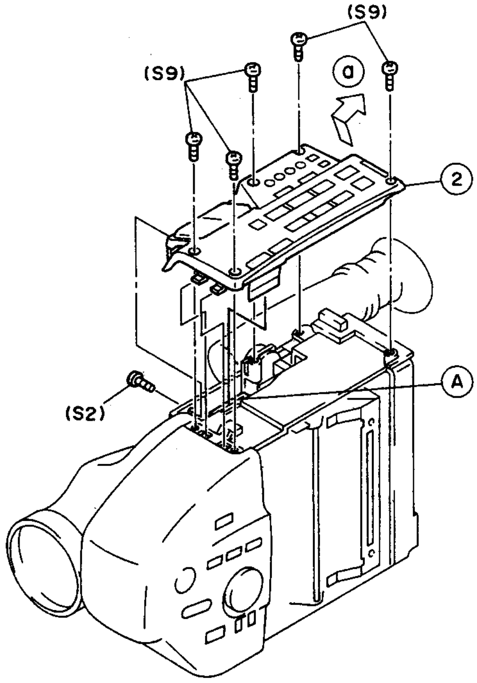


Fig. C2

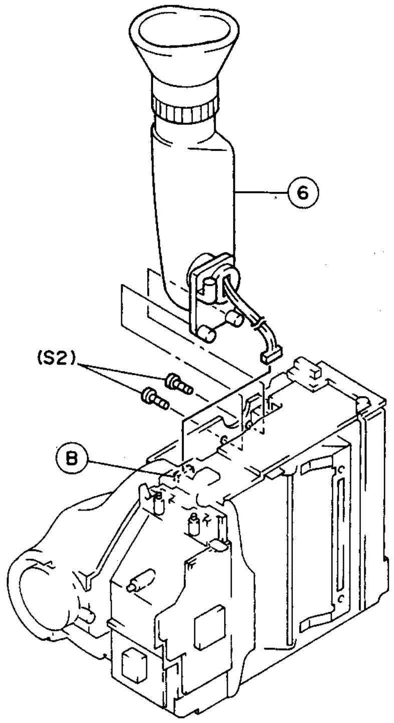


Fig. C4

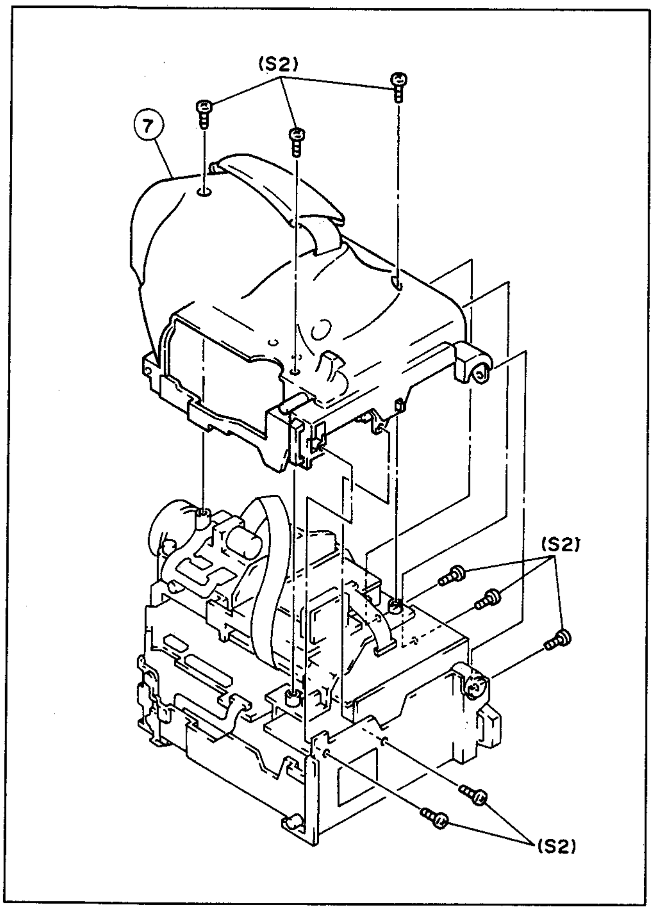


Fig. C5

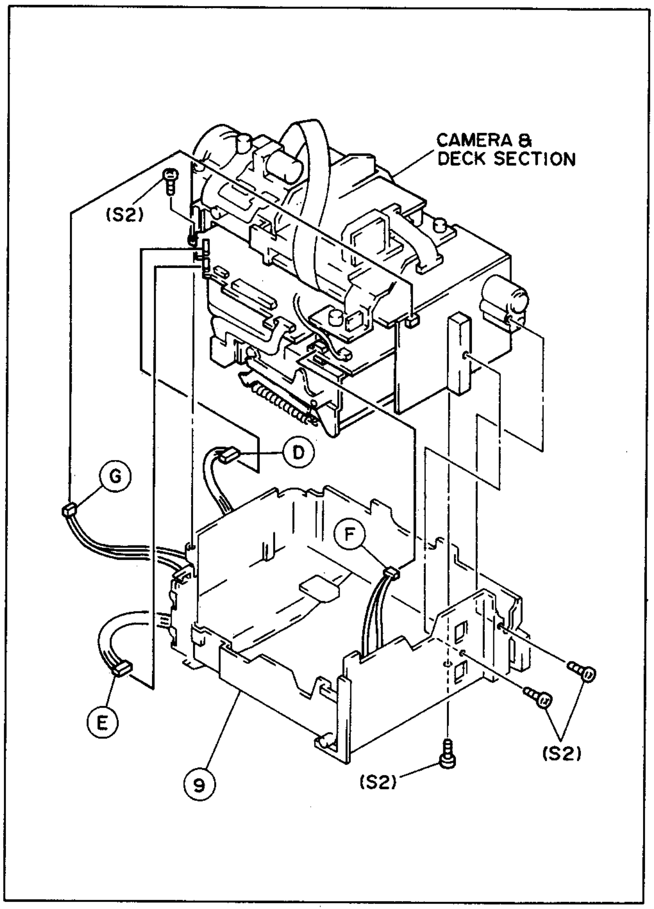

CAMERA & DECK SECTION
(S2)
D
G
F
E
9
(S2)
(S2)

Fig. C7

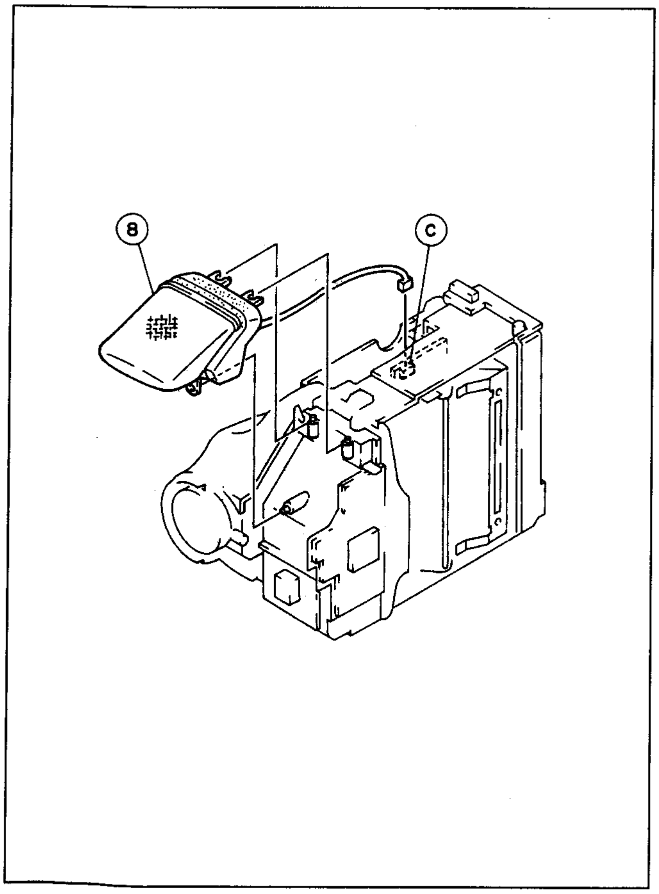


Fig. C6

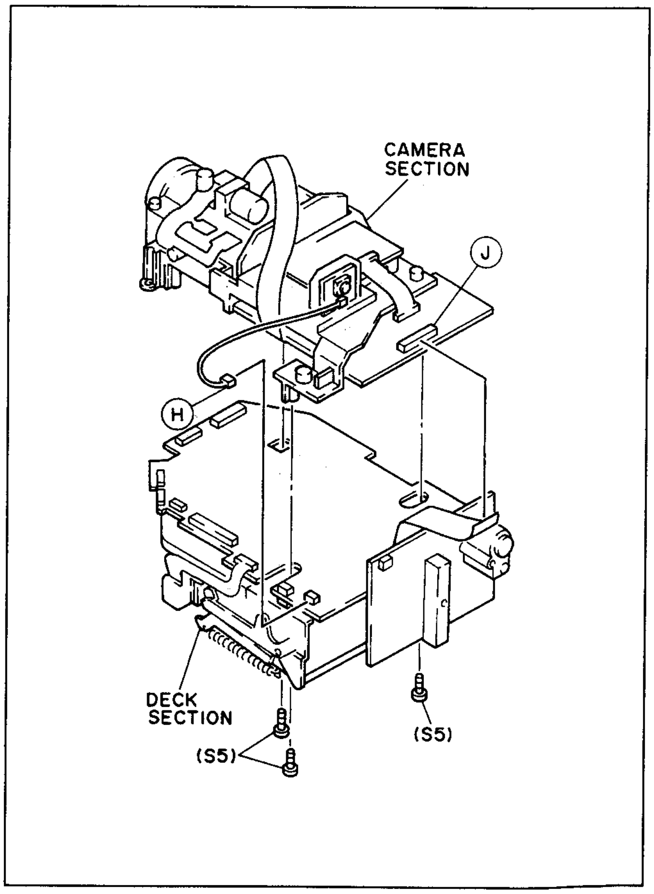
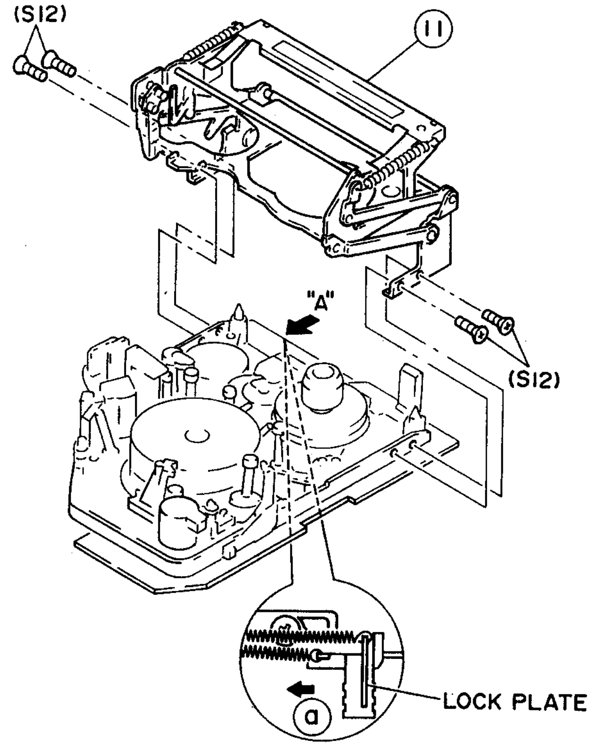

CAMERA SECTION
J
H
DECK SECTION
(S5)
(S5)

Fig. C8



This illustration shows a direction "A".

Fig. C9

Reference Notes:

<NOTE 1>

Remove two screws (S1), slide①in direction of right word and remove it in the direction indicated by arrowⓐ.

<NOTE 2>

Destination of connectors

Note: three kinds of double-arrows in connection tables respectively show kinds of connector/wires.

⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

Connector	No. of Pins	Connector
Ⓐ	13	OPERATION(DECK) CN1 ⇔ MAIN CN8
Ⓑ	6	EVF ↔ MAIN CN9
Ⓒ	2	MIC ↔ MAIN CN13
Ⓓ	5	IR CN1 ↔ MAIN CN6
Ⓔ	7	OPERATION(CAMERA) CN1 ↔ MAIN CN7
Ⓕ	2	LITHIUM BATTERY ↔ MAIN CN16
Ⓖ	2	LAMP ↔ REAR CN1
Ⓗ	2	TRIGGER CN1 ↔ MAIN CN11
Ⓙ	27	CAMERA CN203 ⇔ MAIN CN3

<NOTE 3>

Remove five screws (S2), pickup ② of the right side and remove it in the direction indicated by arrowⓐ.

<NOTE 4>

Remove one screw (S2), turn ③ in the direction indicated by arrow ⓐ and remove it in the direction indicated by arrowⓑ.

<NOTE 5>

1. Remove one screw (S3) and pull out ⑤.
2. Turn the bulb unit counterclockwise indicated by arrowⓒ and pull out the bulb (5A) indicated by arrowⓓ.
3. When replacing a new bulb, insert a new bulb (5A) to connector socket (5B) indicated by arrowⓔ. At this time, it is important to hold the bulb using a soft cloth. Do not touch the bulb directly.
4. Replace the⑤ as described in above steps 2and 1.

<NOTE 6>

1. After detaching the cassette cover, front cover, lower case and upper case, move the lock plate in the direction of the arrow ⓐ to set the cassette housing to the EJECT mode.
2. Remove four screws (S4) and remove ⑪ .

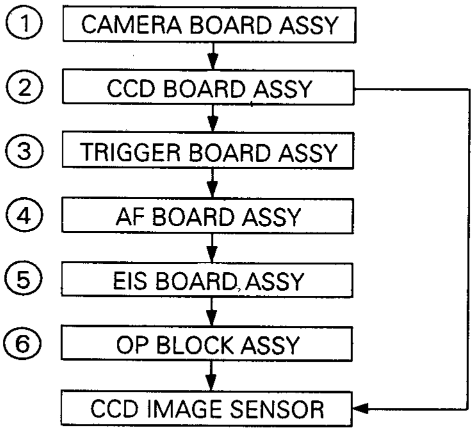
<NOTE 7>

1. To remove microphone, slide to rear of front cover.
2. Set scene select knob to monotone (◢) to remove, pry up to remove knob.

1.3 DISASSEMBLY/ASSEMBLY OF CAMERA PARTS

1.3.1 Disassembly flow chart

This flowchart indicates the disassembly step for the CAMERA parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.


① CAMERA BOARD ASSY
② CCD BOARD ASSY
③ TRIGGER BOARD ASSY
④ AF BOARD ASSY
⑤ EIS BOARD ASSY
⑥ OP BLOCK ASSY
CCD IMAGE SENSOR

*Refer to section 1.7

1.3.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	CAMERA BOARD ASSY	CA1	2(S2) *CONNECTORS Ⓐ,Ⓑ,Ⓓ, Ⓔ	<NOTE 1>
②	CCD BOARD ASSY	CA1	2(S6) *CONNECTOR Ⓒ	<NOTE 1> <NOTE 2>
③	TRIGGER BOARD ASSY	CA1	(S5)	-
④	AF BOARD ASSY	CA1	2(S11)	-
⑤	EIS BOARD ASSY	CA1	2(S11)	-
⑥	OP BLOCK ASSY	CA1	2(S2)	-

List of Abbreviations:

4(S1) = 4 Screws (S1)
3(L1) = 3 Locking Tabs (L1)
3(SD1) = 3 Solder position (SD1)
3(K1) = 3 Positioning pins (K1)
2(P1) = 2 Springs (P1)
2(W1) = 2 Washers (W1)

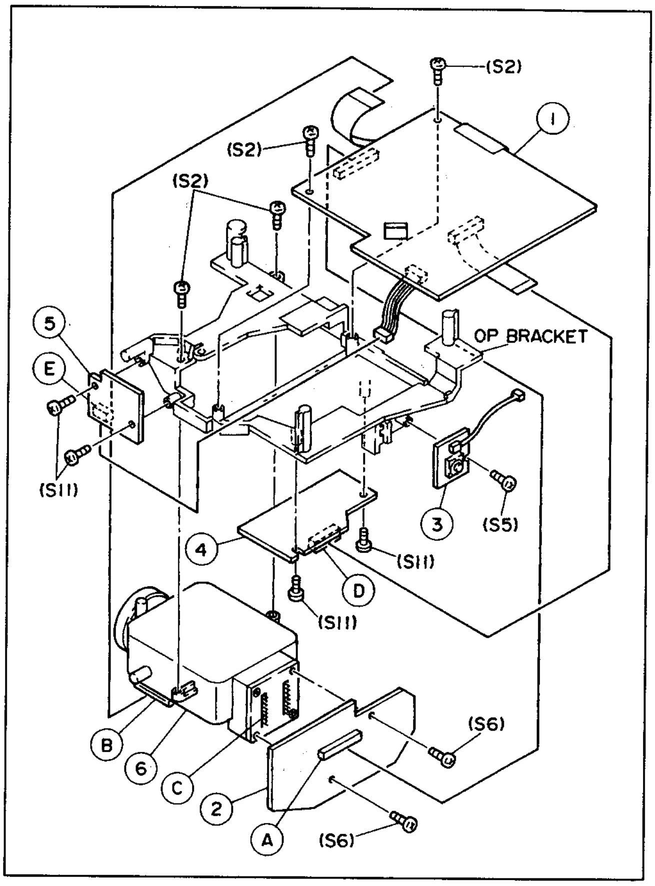

(S2)
①
(S2)
(S2)
⑤
Ⓔ
OP BRACKET
(S11)
③
(S5)
④
(S11)
Ⓓ
(S11)
(S6)
Ⓑ
⑥
Ⓒ
②
Ⓐ
(S6)

Fig. CA1

Reference Notes:

<NOTE 1>

Destination of connectors

Note: three kinds of double-arrows in connection tables respectively show kinds of connector/wires.

⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

Connector	No. of Pins	Connector
Ⓐ	36	CAMERA CN201 ⬌ CCD CN101
Ⓑ	22	CAMERA CN202 ⇔ IRIS MOTOR
Ⓒ	16	CCD CN102 ⬌ CCD SOCKET
Ⓓ	20	CAMERA CN206 ⇔ AF CN501
Ⓔ	5	CAMERA CN205 ↔ EIS CN451

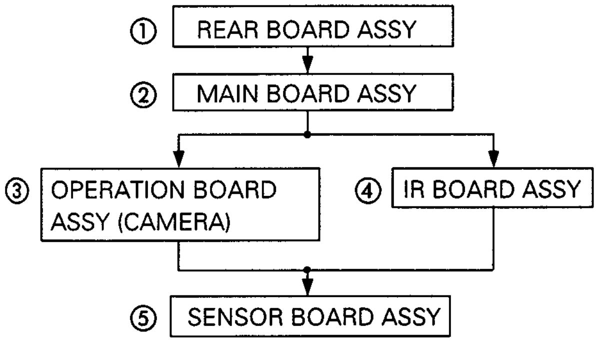
<NOTE 2>

1. Remove two screws (S6).
2. Move the CCD board in the direction of the rear side. At that time, pay careful attention to pins (connector Ⓒ) of the CCD image sensor so as not to damage them.

1.4 DISASSEMBLY/ASSEMBLY OF DECK PARTS

1.4.1 Disassembly flow chart

This flowchart indicates the disassembly step for the DECK parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.

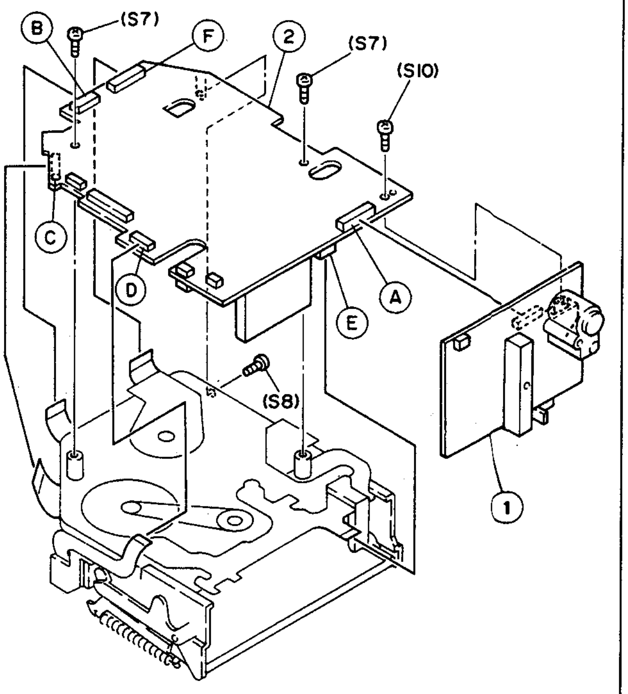


① REAR BOARD ASSY
② MAIN BOARD ASSY
③ OPERATION BOARD ASSY (CAMERA)
④ IR BOARD ASSY
⑤ SENSOR BOARD ASSY

1.4.2 Disassembly method

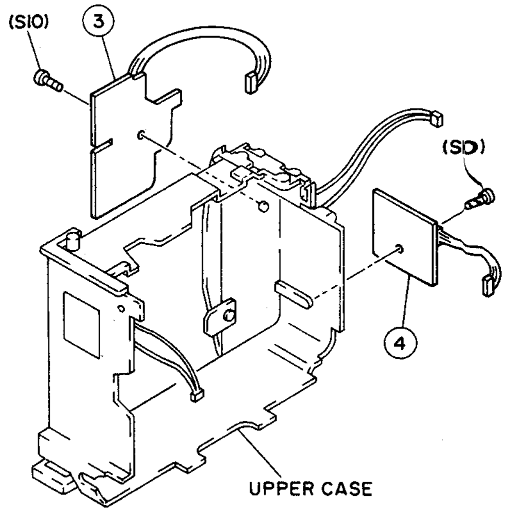
STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	REAR BOARD ASSY	D1	(S10) *CONNECTORS Ⓐ	<NOTE 1>
②	MAIN BOARD ASSY	D1	2(S7), (S8) *CONNECTORS Ⓑ-Ⓕ	<NOTE 1>
③	OPERATION (CAMERA) BOARD ASSY	D2	(S10)	-
④	IR BOARD ASSY	D2	(S10)	-
⑤	SENSOR BOARD ASSY	D3	4(S4) *CONNECTORS Ⓖ,Ⓗ	<NOTE 1> <NOTE 2>

List of Abbreviations:
4(S1) = 4 Screws (S1)
3(L1) = 3 Locking Tabs (L1)
3(SD1) = 3 Solder position (SD1)
3(K1) = 3 Positioning pins (K1)
2(P1) = 2 Springs (P1)
2(W1)= 2 Washers (W1)



Ⓑ
(S7)
Ⓕ
②
(S7)
(S10)
Ⓒ
Ⓓ
Ⓐ
Ⓔ
(S8)
①

Fig. D1



(S10)
③
(S10)
④
UPPER CASE

Fig. D2

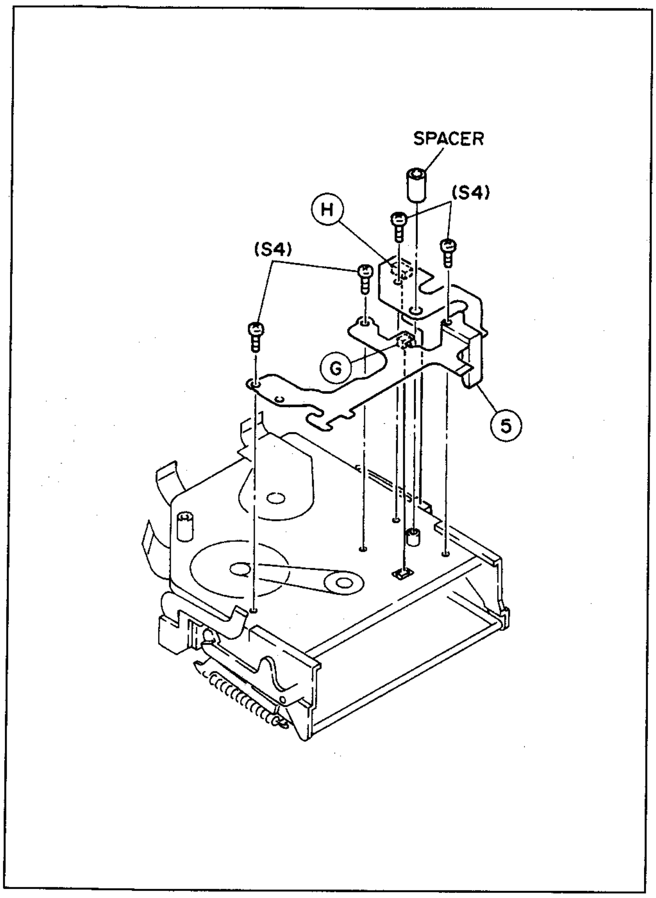


Fig. D3

Reference Notes:
<NOTE 1>
Destination of connectors

Note: three kinds of double-arrows in connection tables respectively show kinds of connector/wires.

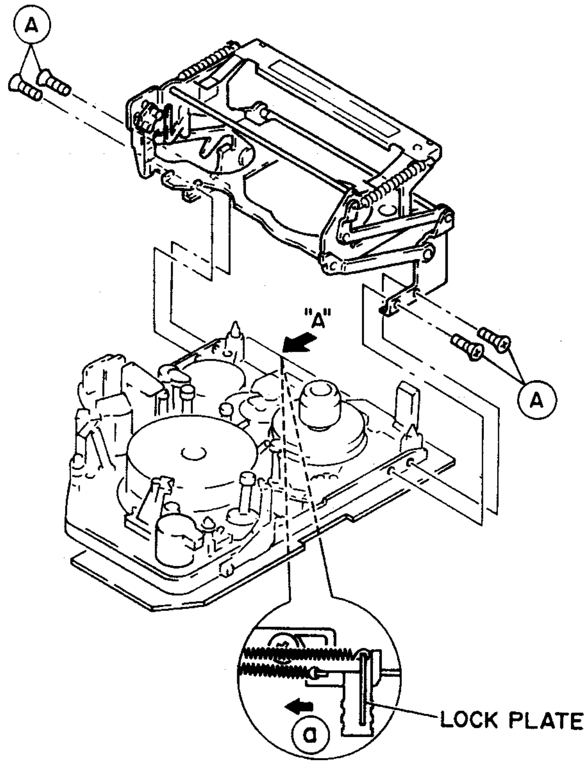
⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

Connector	No. of Pins	Connector		
Ⓐ	36	MAIN CN2	⬌	REAR CN2
Ⓑ	18	MAIN CN4	⇔	DRUM MOTOR
Ⓒ	18	MAIN CN5	⇔	CAPSTAN MOTOR
Ⓓ	11	MAIN CN10	⇔	A/C HEAD
Ⓔ	13	MAIN CN14	⇔	SENSOR
Ⓕ	11	MAIN CN1	⇔	DRUM BOARD
Ⓖ	3	SENSOR	⇔	REEL SENSOR
Ⓗ	4	SENSOR	↔	MODE CTL MOTOR END SENSOR

<NOTE 2>
When disconnecting, do it very carefully since the other side connector Ⓖ is attached to a flexible wire.

1.5 REPLACEMENT OF CASSETTE HOUSING

1. After detaching the cassette cover, rear cover, operation unit and upper case, move the lock plate in the direction of the arrow ⓐ to set the cassette housing to the EJECT mode.
2. Remove four screwsⒶ.
3. Move the cassette housing.



This illustration shows a direction "A".

Fig. 1-5-1 CASSETTE HOUSING

1.6 TO TAKE OUT CASSETTE TAPE

When the deck enters the Emergency mode with cassette tape loaded and it cannot be ejected by pressing the EJECT button, take out of the cassette housing according to the following procedure.

1. Disconnect the deck from the power source and remove the cassette cover, rear cover, operation unit and upper case.
2. Remove wires of the mode control motor as shown in the magnified view Ⓐ and connect jumping wires to the terminals.
3. Holding the cassette housing by hand, connect the jumping wires to battery and set the mechanism for Unloading as it is in the Eject mode. In the condition, turn the take-up gear (see the magnified viewⒷ) in the direction of the arrow ⓐ(toward the drum) to wind the tape. Checking up whether the tape is damaged or not, stop holding of the cassette housing by hand.

Note: If the mechanism comes into the unloading mode as the cassette tape is not held by hand, it results in tape damage.

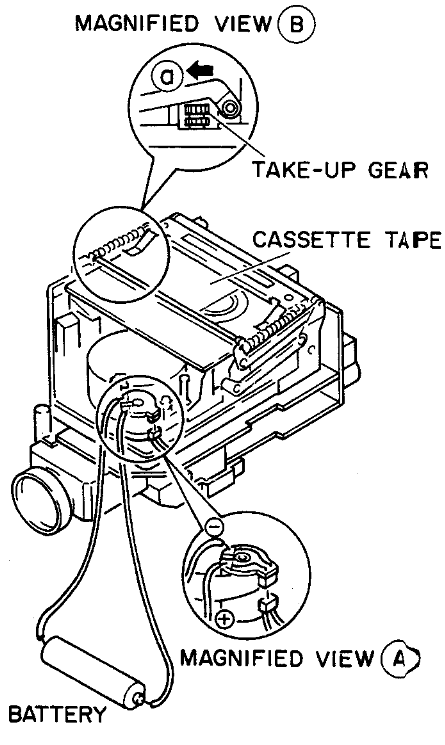


Fig. 1-6-1 CASSETTE TAPE

1.7 REPLACEMENT OF CCD IMAGE SENSOR

Note:

- Pay the most careful attention to the transparent glass and optical LPF of the CCD image sensor so a not the soil and damage them. If something is soiled with fingerprints, etc., gently clean it with silicon-processed paper/ cloth or chamois.
- When the CCD image sensor is shipped from the factory, there are protection seals applied onto the transparent glass. Leave the protector as it is, and take it off just before assembling the CCD image sensor to the OP block.

Note: When replacing the CCD assembly, make sure to check the part number of the currently installed one and to replace it with that of the same part number since two kinds of CCD assemblies are used for this model.

1.7.1 Removal of CCD image sensor

1. Remove two screws Ⓐ securing the CCD base, and disassemble the optical LPF holder, the optical LPF, spacer rubber, and CCD image sensor from the CCD base.

1.7.2 Installation of new CCD image sensor

1. Remove the protection seal from a new CCD image sensor. Next, put the spacer rubber, optical filter, filter holder on the CCD image sensor as they are piled up in this order. At that time, make sure of orientation of each item referring to the following table (see Fig. 1-7-1).

Part Name	Orientation
CCD image sensor	Mark is on the right viewed as indicated by the arrow ⓐ.
Spacer rubber	IC side is horizontal.
Optical LPF	Marks are on the right and top viewed as indicated by the arrow ⓐ.

2. Then, place the imager holder on the top of the optical LPF holder.
3. Fix the CCD base to OP block with the two screws Ⓐ. At that time, be careful of the orientation.
4. After completion of all P.C. boards to the camera section, observe the monitor to confirm no vignetting caused by the bodytube, rings, lens hood, etc. If no vignetting is observed, it can be said that image's parallel, horizontality and centering are correct.

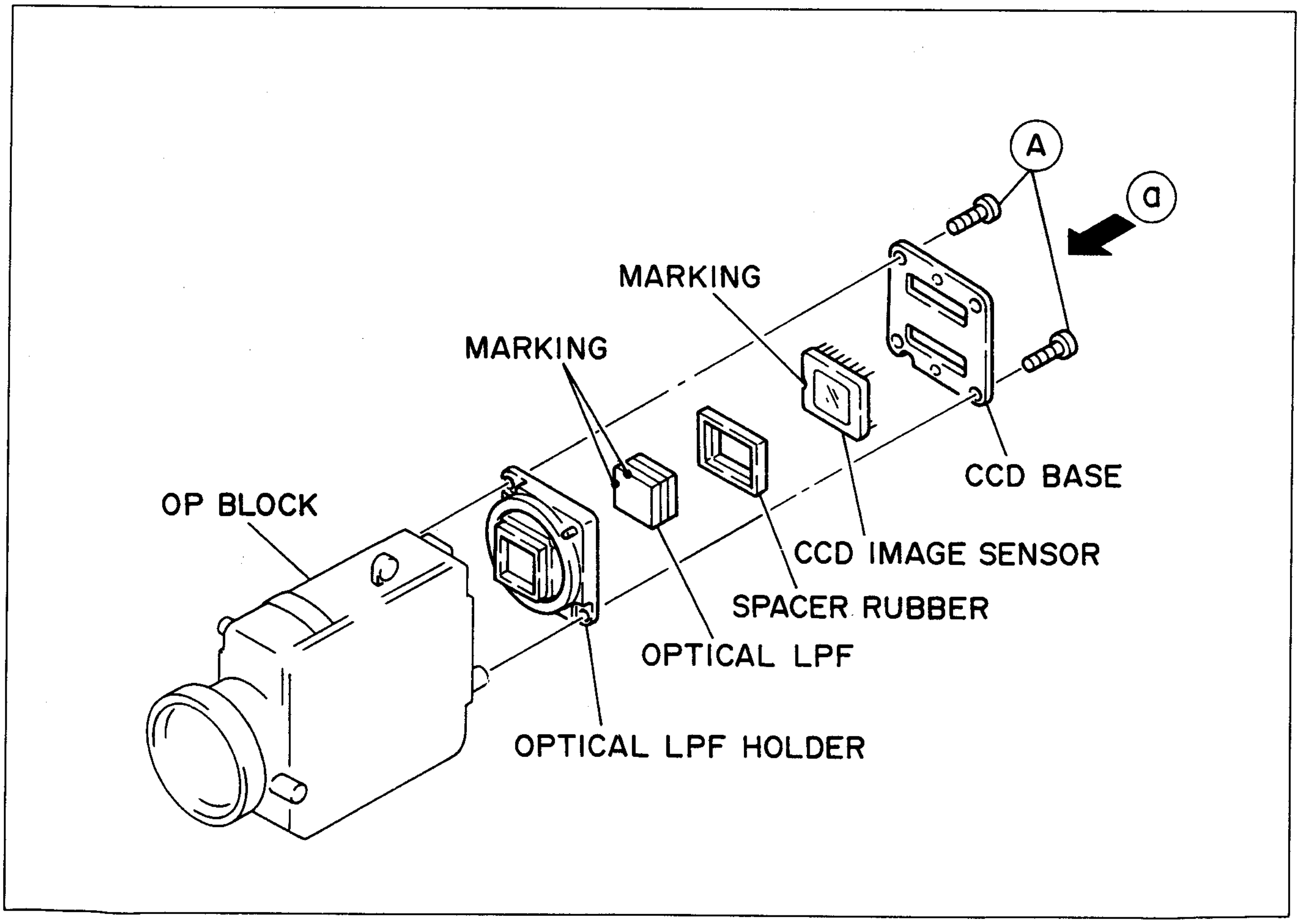


Fig. 1-7-1 CCD image sensor

1.8 HEAT BONDED FLEXIBLE CABLE SERVICE

Replacement of the heat bonded flexible cable used in the camera section of this model is described below.

1.8.1 Removal

1) Grasp the end of the flexible cable and, without heating, gently and carefully peel it from the circuit board so as not to leave residual bondig agent.

Note: *Inspect the cable for shorting, faulty connections, open connections and other defects. If defective, replace the cable.*

1.8.2 Installation

1) Evenly melt solder on the circuit board pattern and apply flux (leave a small amount of solder).
2) Peel off the white seal of the new cable. Align the cable pattern with the board pattern with 1 mm of the board pattern protruding beyond the cable (see Fig. 1–8–1).

Note: *As some adhesive remains from the seal, gently press the end of the cable so that it adheres to the pattern.*

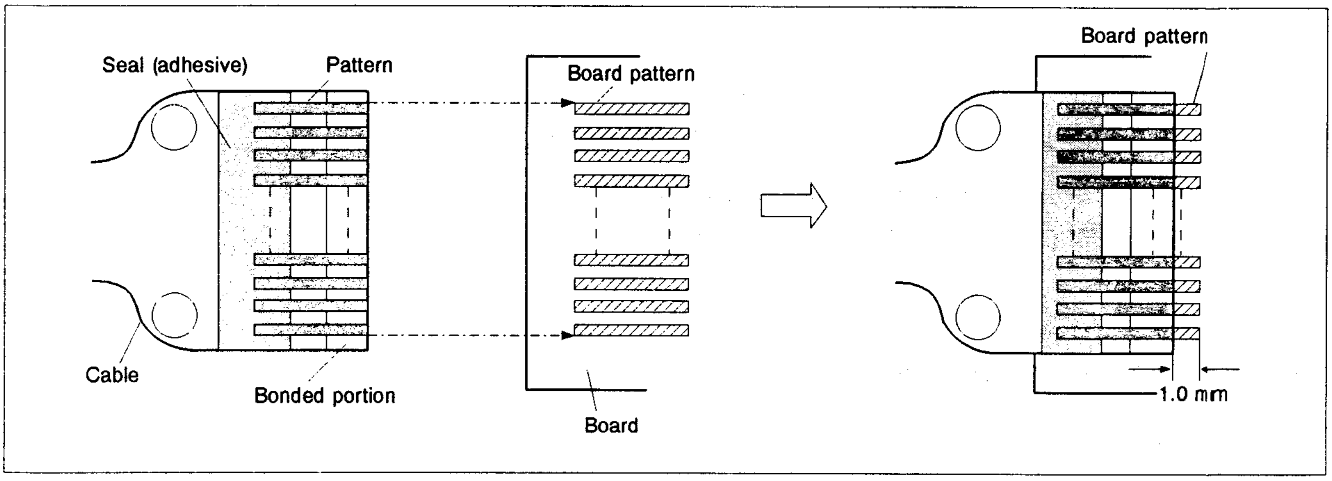

Seal (adhesive)
Pattern
Board pattern
Board pattern
Cable
Bonded portion
Board
1.0 mm

Fig. 1-8-1 Align the cable and board patterns

3) As shown in Fig. 1-8-2, restrain the cable pattern with a screwdriver and melt the solder remaining on the board pattern with a soldering iron.

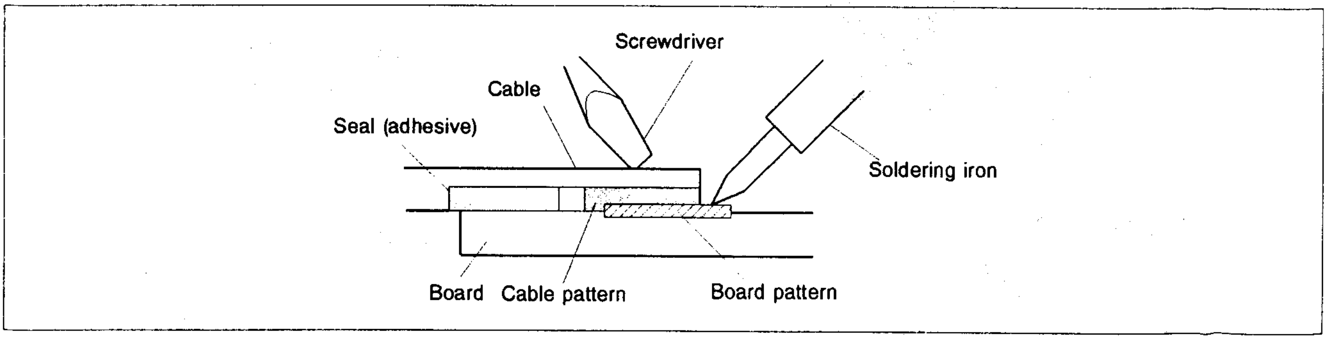

Screwdriver
Cable
Seal (adhesive)
Soldering iron
Board
Cable pattern
Board pattern

Fig. 1-8-2 Soldering

4) After soldering, check conductivity with an ohmmeter and inspect for shorting.

1.8.3 Reinforcing

1) As shown in Fig. 1-8-3, use a soldering temperature of about 260 °C (400 °C will damage the cable) and heat the adhesive section of the cable from center outwards. Pause at each pin for 2 or 3 seconds. Perform 1 - 3 times.

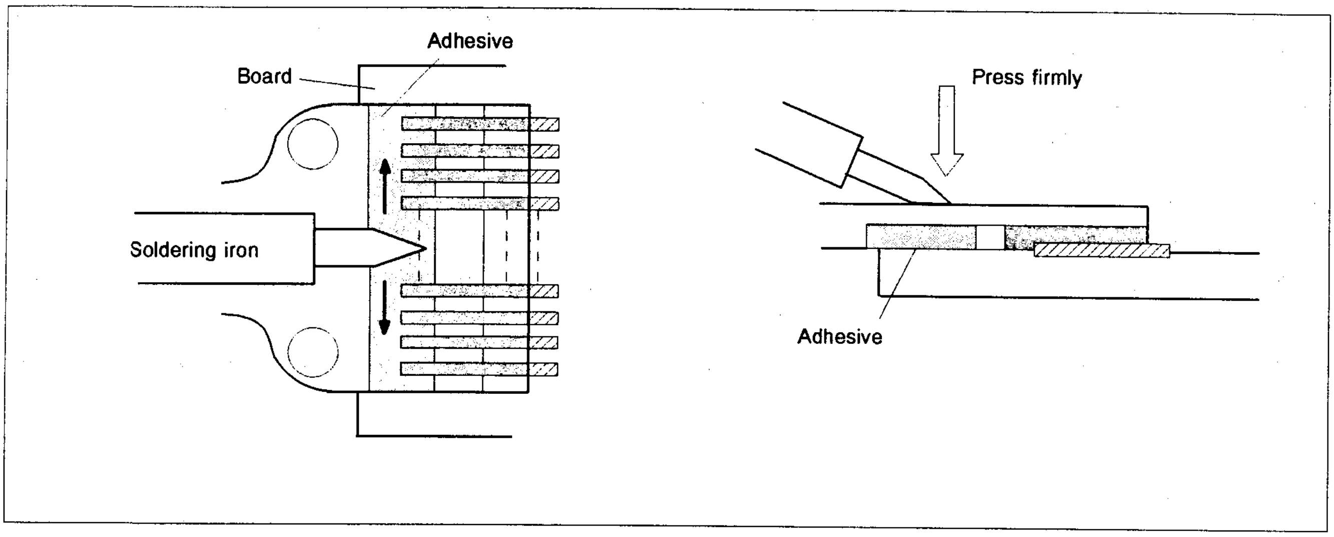

Adhesive
Board
Soldering iron
Press firmly
Adhesive

Fig. 1-8-3 Reinforcing

2) Inspect the cable for damage and secure connection.

3) Allow to cool. Do not subject to stress while cooling.

1.9 SWING DETECTOR REPLACEMENT

The Swing Detector is a delicate part, so please be careful with it.

1.9.1 Handling

Do not drop. If you drop swing detector, do not use dropped one.

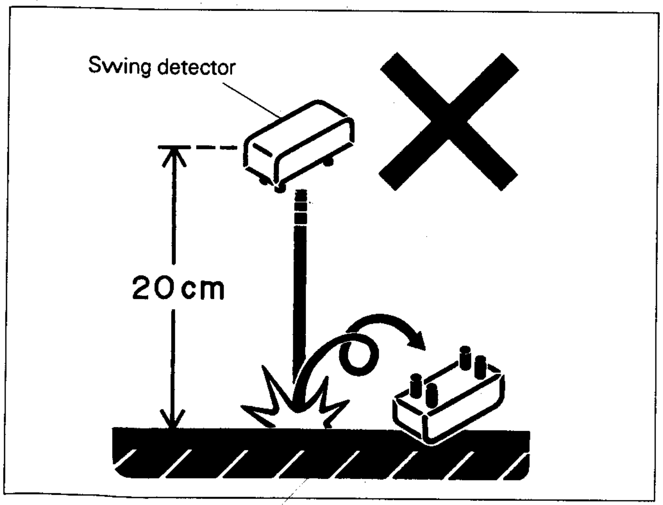

Swing detector
20cm

Fig. 1-9-1

1.9.2 Soldering

Pay attention for soldering temperature and time.

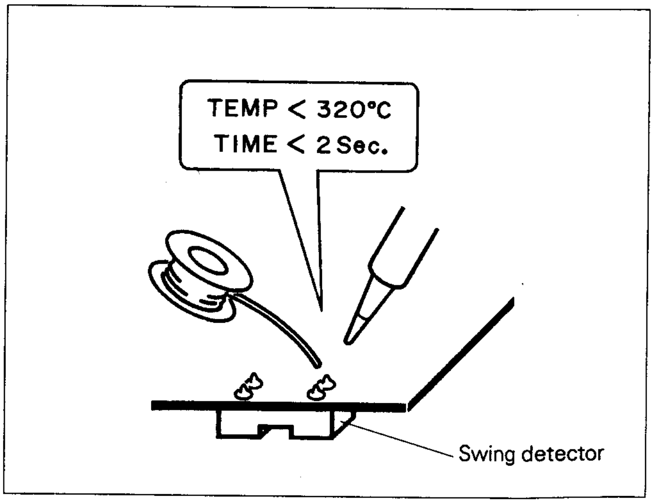

TEMP < 320°C
TIME < 2 Sec.
Swing detector

Fig. 1-9-2

SECTION 2
MECHANISM ADJUSTMENT

2.1 SERVICE CAUTIONS

2.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. When installing parts, be careful not to do with other parts as well as not to damage others. (Pay the most careful attention to the upper drum assy and tape transport mechanism.)

2.1.2 How to read the disassembly and assembly (For Mechanism Parts)

① : Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

② : Starting No. followed by corresponding part which can be removed at this stage.
See example below.
Example:
SUPPLY REEL DISK ASSY can be removed without removing any other parts.
But BAND ARM ASSY can be removed only after removing SUPPLY REEL DISK ASSY (No.1).

③ : Part to be removed or installed.

④ : Location of part.
T = Top
B = Bottom

⑤ : Fig. No. showing Procedure or Part Location.
M = Mechanism

⑥ : Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.
2(S1) = 2 Screws (S1)

⑦ : Adjustment information for installation.
(+) = Refer to Exploded Views for Lubrication information.

2.1.3 Main screws and wahers to deal with disassembly/assembly

Table 2-1-1 lists screws and washers by their symbols which correspond to those shown in figures of this section "Disassembly and Assembly".

SYMBOL OF SCREW	SHAPE	PART NUMBER
S1		SPSH1735M
S2		YDM4093
S3		SPSH1725M
S4		SPSH1425M
S5		YQM30032-21
S6		SPSK1720M
S7		SPSH1760M
S8		SSSH1730M
S9		YQ42886
S10		SPSH1710M
S11		YQ42931
S12		SPSN1740
S13		SPSH1730M
SYMBOL OF WASHER	SHAPE	PART NUMBER
W1		PQM30017-27
W2		Q03093-835
W3		PQM30017-25
W4		YQ41904

Table 2-1-1

(For Mechanism Parts)

STEP /LOC. No.	START -ING No.	PART		Fig. No.	REMOVAL	INSTALLATION
					*UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	ADJUSTMENT CONDITION NOTE
①	1	SUPPLY REEL DISK ASSY	T	M1	(W1)	<NOTE 3>
②	1	BAND ARM ASSY	T	M1	(W1), (P1), *(L1)	—
③	1	BAND REEL ASSY	T	M1	(W2)	—
④	1, 4	TENSION ARM ASSY	T	M2	(W1)	<NOTE 3>
⑤	5	END SENSOR BKT ASSY	T	M2	(S1), CONNECTOR Ⓐ	<NOTE 1>
⑥	6	CASSETTE BLOCK	T	M3	(S13)	—
⑦	7	CLUTCH UNIT	T	M3	2(S3), *(L3) TIMING BELT	—
↑ ①	↑ ②	↑ ③	↑ ④	↑ ⑤	↑ ⑥	↑ ⑦

2.2 DISASSEMBLY/ASSEMBLY OF MECHANISM PARTS

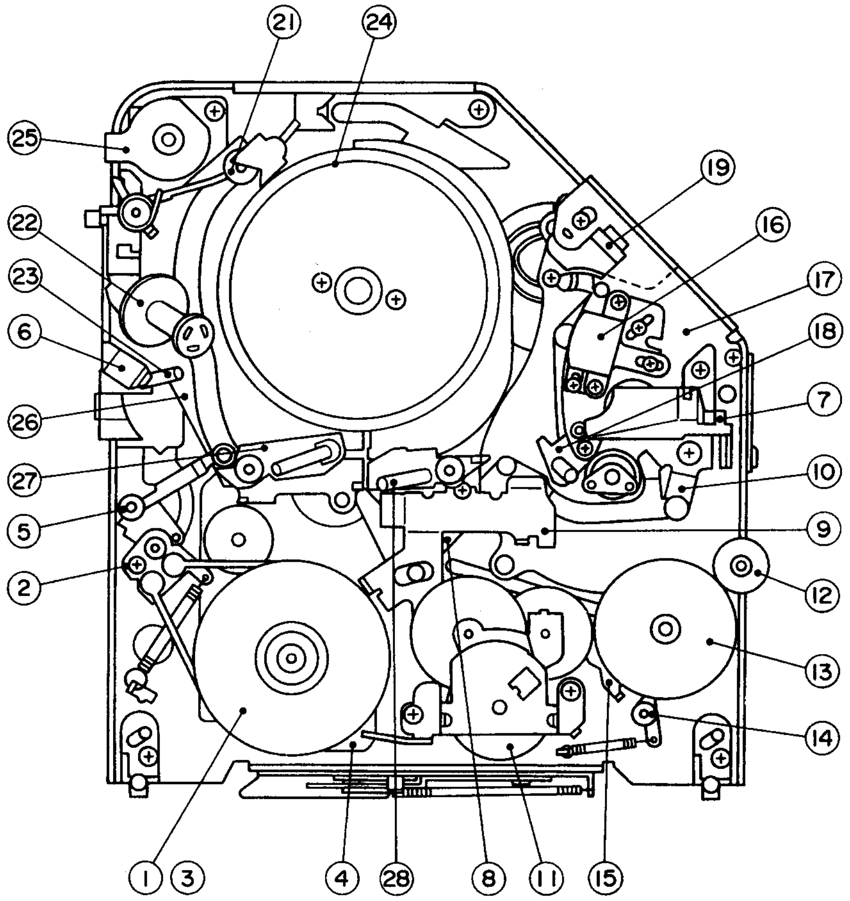
This procedure starts with the condition that the cabinet parts and deck parts. Also, all the following procedures for adjustment and parts replacement should be performed in STOP mode. When reassembling, perform the step(s) in the reverse order.

STEP /LOC. No.	START -ING No.	PART		Fig. No.	REMOVAL	INSTALLATION
					*UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	ADJUSTMENT CONDITION NOTE
①	1	SUPPLY REEL DISK ASSY	T	M1	(W1)	<NOTE 3>
②	1	BAND ARM ASSY	T	M1	(W1), (P1), *(L1)	–
③	1	BAND REEL ASSY	T	M1	(W2)	–
④	1, 4	TENSION ARM ASSY	T	M2	(W1)	<NOTE 3>
⑤	5	END SENSOR BKT ASSY	T	M2	(S1), CONNECTOR Ⓐ	<NOTE 1>
⑥	6	CASSETTE BLOCK	T	M3	(S13)	–
⑦	7	CLUTCH UNIT	T	M3	2(S3), *(L3)TIMING BELT	–
⑧	1, 8	CAM SWITCH ASSY	T,B	M3	*2(L2)	See, Adjustment procedure for Section 2.4, <NOTE 4>
⑨	9	GUIDE PLATE	T	M4	2(S4)	–
⑩	9	PINCH ROLLER ARM ASSY	T	M4	(S5)	–
⑪	9	SPRING PLATE ASSY	T	M4	(P3), *(L4)	–
⑫	12	TAKE-UP GEAR	T	M5	(W1)	–
⑬	12	TAKE-UP CLUTCH GEAR	T	M5	(W1), (W2)	<NOTE 3>
⑭	12	SEARCH BRAKE SUB ASSY	T	M5,M5A	(W1), (P4), *(L5)	<NOTE 6>
⑮	9, 12	BRAKE DRIVE LEVEL	T	M5,M5A	–	<NOTE 6>
⑯	16	A/C HEAD ASSY	T	M6	2(S6), *CONNECTOR Ⓑ	<NOTE 1>, <NOTE 3>
⑰	17	SUB DECK ASSY	T	M7	(S6), 2(S7)	–
⑱	17	MIDDLE POLE ARM ASSY	T	M7	–	–
⑲	17	MIDDLE POLE CATCHER ASSY	T	M8	(S8)	–
⑳	17	CAPSTAN MOTOR ASSY	T	M8	2(S3), (S8)	<NOTE 7>
㉑	21	HEAD CLEANER ASSY	T	M9,M9A	(W3), *2(L6), (P5)	<NOTE 5>
㉒	21	IMPEDANCE ROLLER ARM ASSY	T	M9,M9A	(W3), *2(L7), (P6)	<NOTE 5>
㉓	23	SUPPLY SLANT POLE ASSY	T	M9,M9A	(S1)	<NOTE 5>
㉔	24	DRUM ASSY	T,B	M10,M11	2(S9), (S2), (S12) *BRUSH *CONNECTOR Ⓒ, *RING CONNECTOR ASSY	<NOTE 2>, <NOTE 3>
㉕	25	MODE CTL MOTOR	T	M10	2(S10)	–
㉖	25, 26	SUPPLY GUIDE RAIL	T	M12	2(S1)	–
㉗	25, 27	SUPPLY POLE BASE ASSY	T	M12	(S11)	–
㉘	25,26,28	TAKE-UP POLE BASE ASSY	T	M12	(S11)	–
㉙	1 – 29	SUPPLY LINK GEAR	T	M13	(W1)	See, Adjustment procedure for Section 2.4
㉚	29	SUPPLY MIDDLE GEAR	T	M13	(W1)	See, Adjustment procedure for Section 2.4
㉛	29	LOADING GUIDE 2	T	M13	–	–
㉜	30, 32	LOADING GUIDE	T	M14	3(W1), 3(W4)	–
㉝	29, 33	DRIVE GEAR	T	M14	–	–
㉞	32, 34	LOADING RING	T	M14	–	See, Adjustment procedure for Section 2.4
㉟	32, 35	MIDDLE POLE CAM GEAR	T	M14	–	See, Adjustment procedure for Section 2.4
㊱	33, 36	LOADING GEAR 2	T	M15	(W1)	–
㊲	33, 37	ENCODER GEAR 1	T	M15	(W1)	See, Adjustment procedure for Section 2.4
㊳	37, 38	ENCODER GEAR 2	T	M15	–	–
㊴	37, 39	CONTROL CAM GEAR	T	M15	(W3)	See, Adjustment procedure for Section 2.4

List of Abbreviations:

4(S1) = 4 Screws (S1)
3(L1) = 3 Locking Tabs (L1)
3(SD1) = 3 Solder position (SD1)
3(K1) = 3 Positioning pins (K1)
2(P1) = 2 Springs (P1)
2(W1) = 2 Washers (W1)

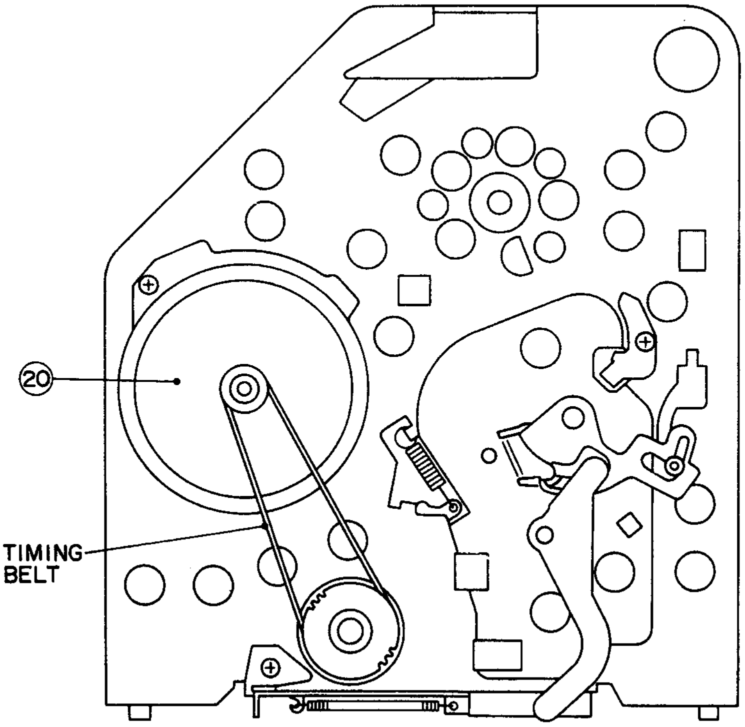
TOP VIEW



㉑
㉔
㉕
⑲
㉒
⑯
㉓
⑰
⑥
⑱
⑦
㉖
㉗
⑩
⑤
⑨
②
⑫
⑬
⑭
①
③
④
㉘
⑧
⑪
⑮

Note: For ㉙ to ㊴ , refer to Fig. M13, M14, M15.

BOTTOM VIEW



⑳
TIMING BELT

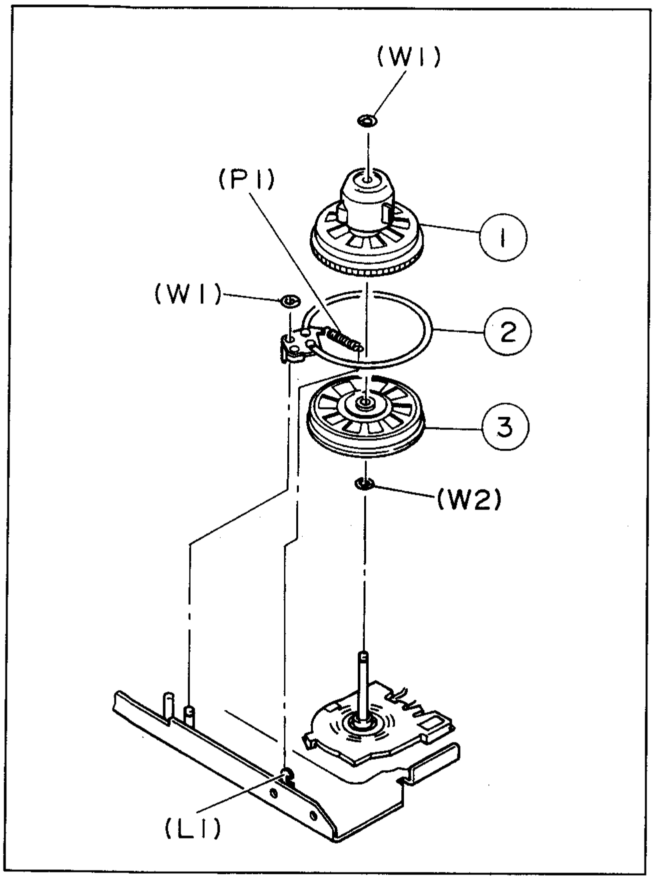

(W1)
(P1)
1
(W1)
2
3
(W2)
(L1)

Fig. M1

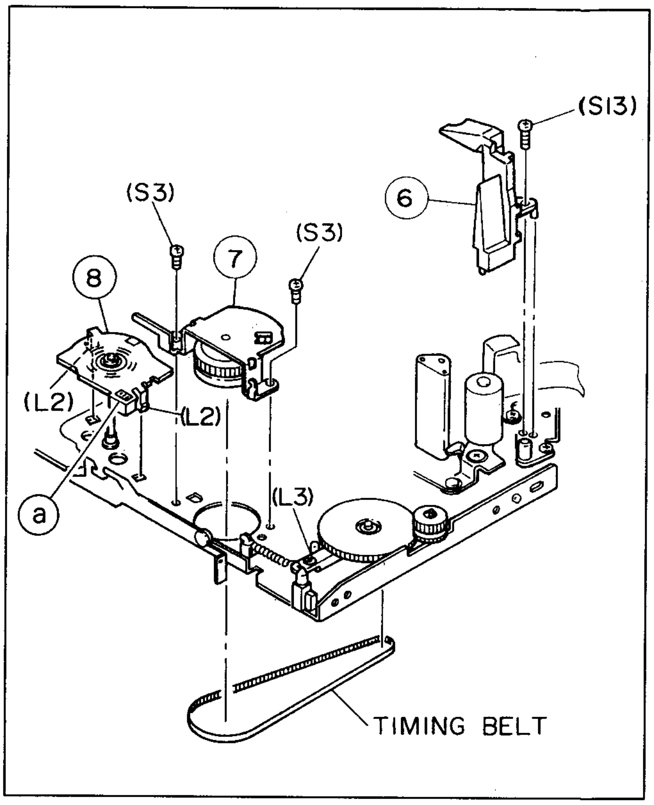

(S13)
6
(S3)
7
(S3)
8
(L2)
(L2)
a
(L3)
TIMING BELT

Fig. M3

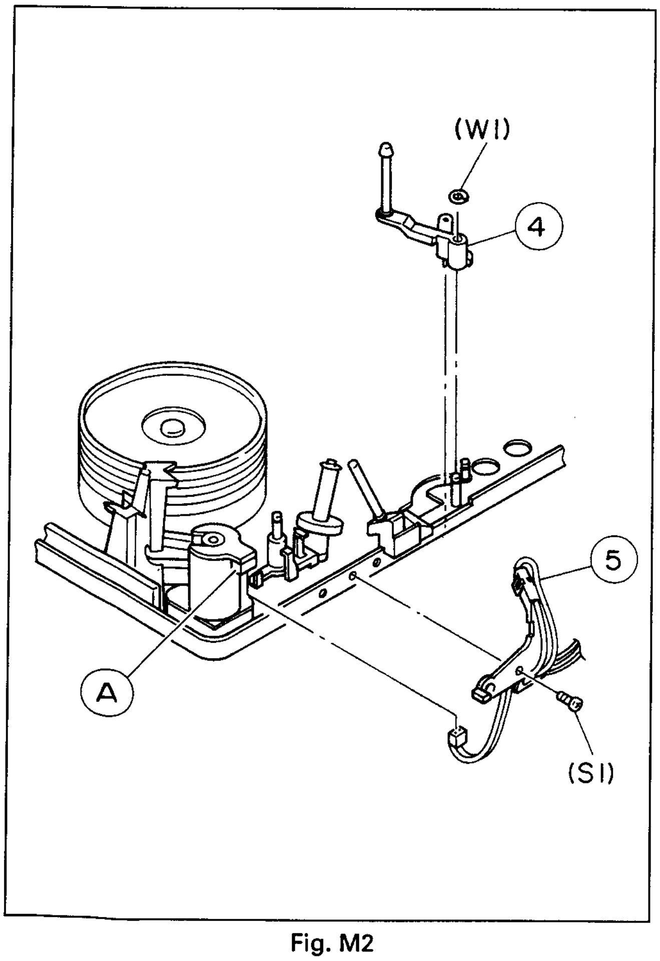


Fig. M2

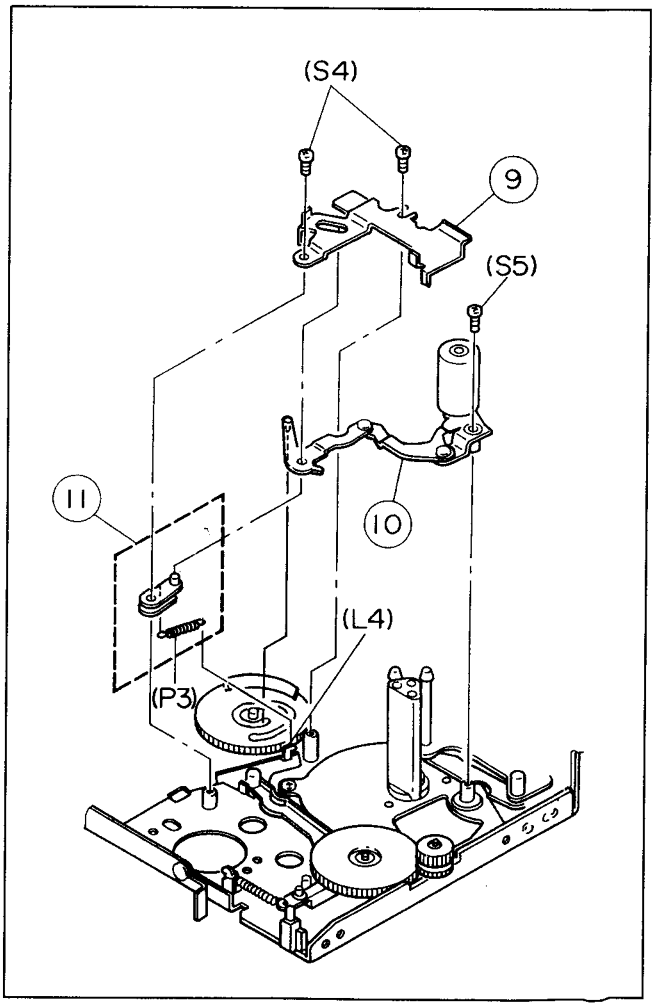

(S4)
9
(S5)
10
11
(L4)
(P3)

Fig. M4

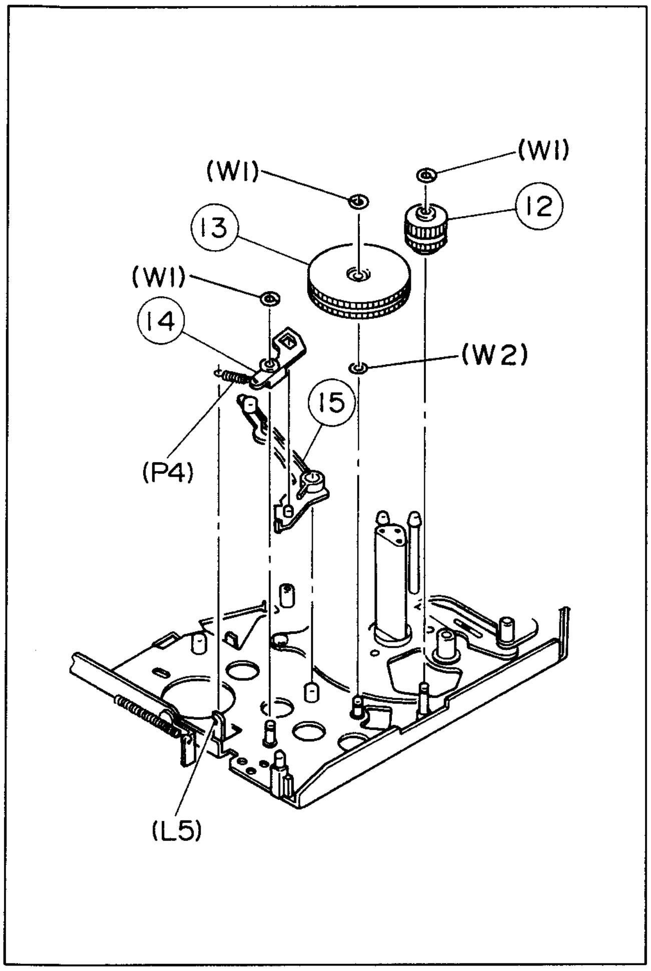

(W1)
(W1)
(13)
(12)
(W1)
(14)
(W2)
(15)
(P4)
(L5)

Fig. M5

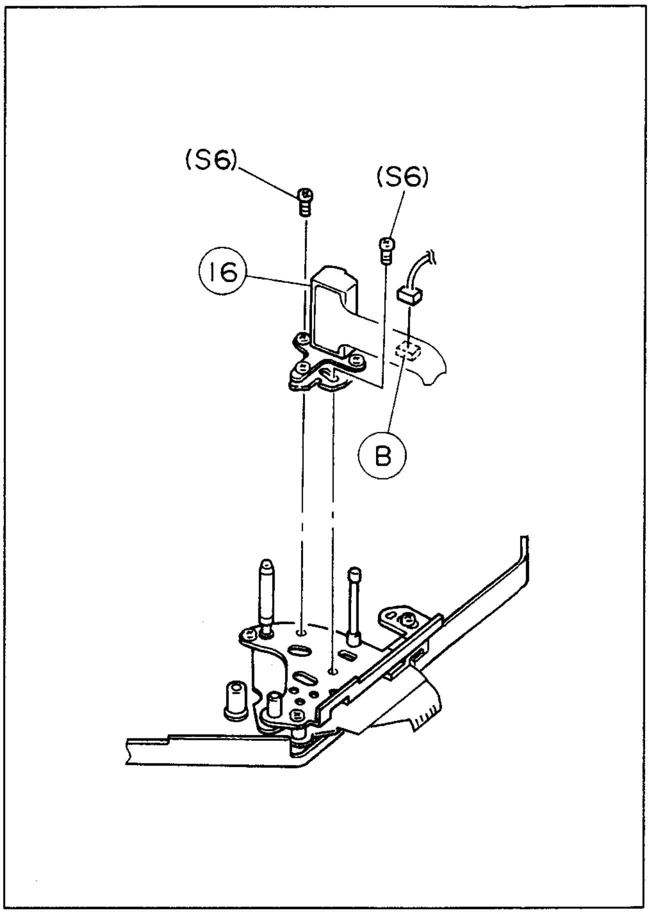


Fig. M6

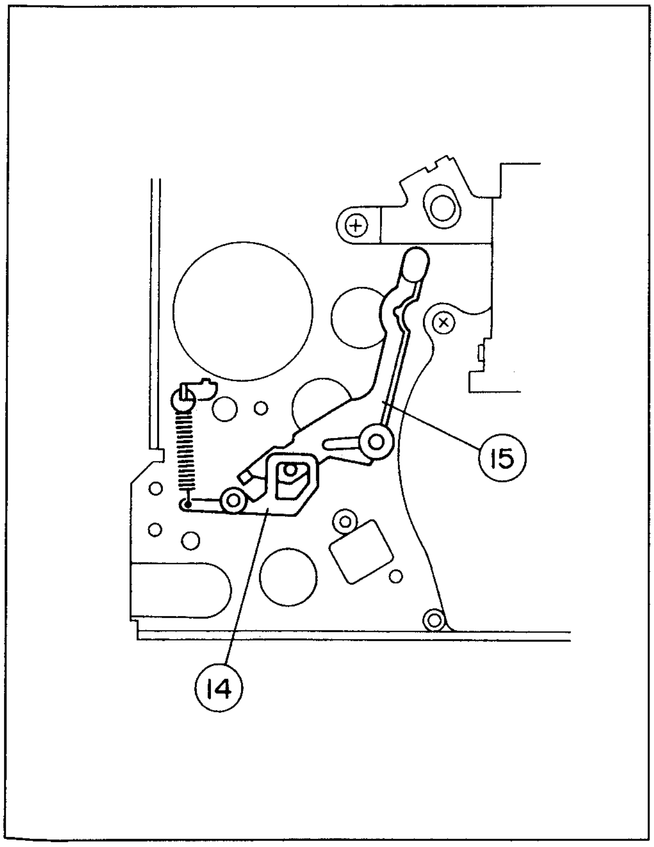


Fig. M5A

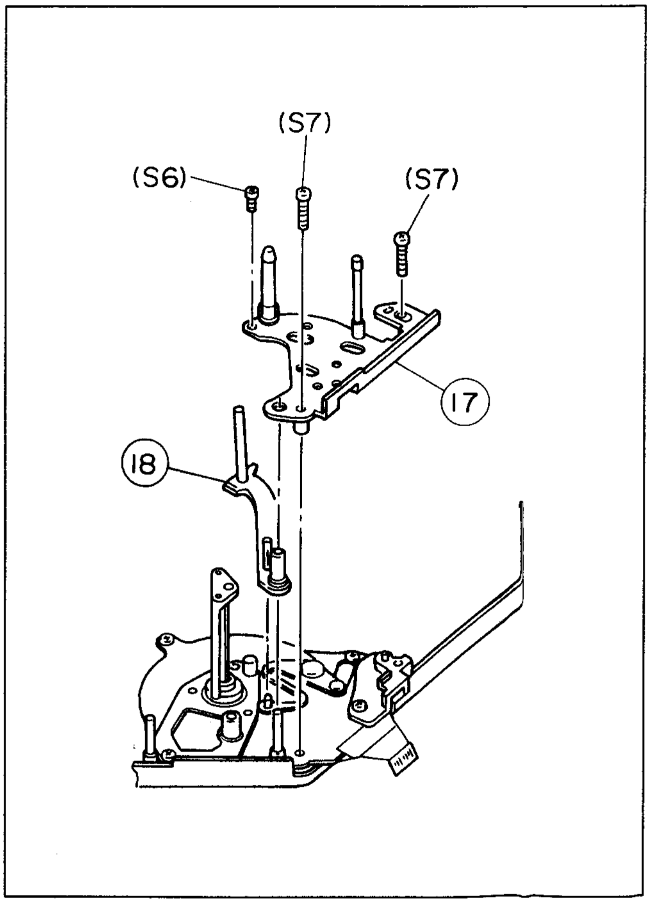

(S7)
(S6)
(S7)
(17)
(18)

Fig. M7

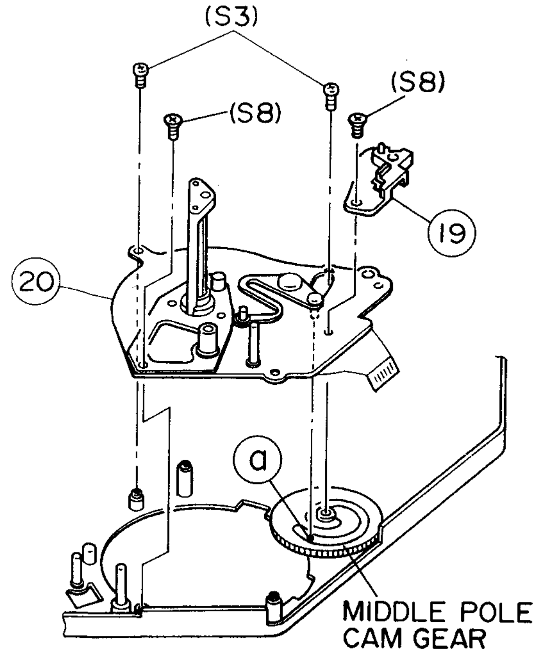

(S3)
(S8)
(S8)
19
20
a
MIDDLE POLE
CAM GEAR

Fig. M8

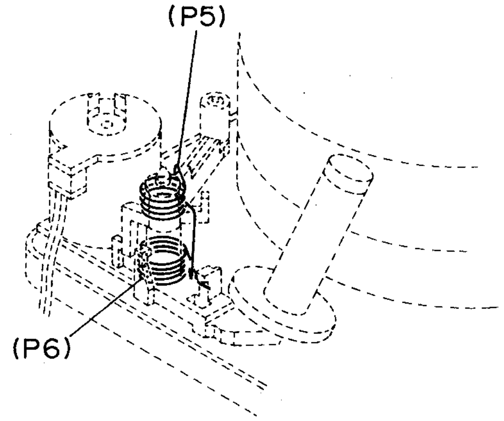


Fig. M9A

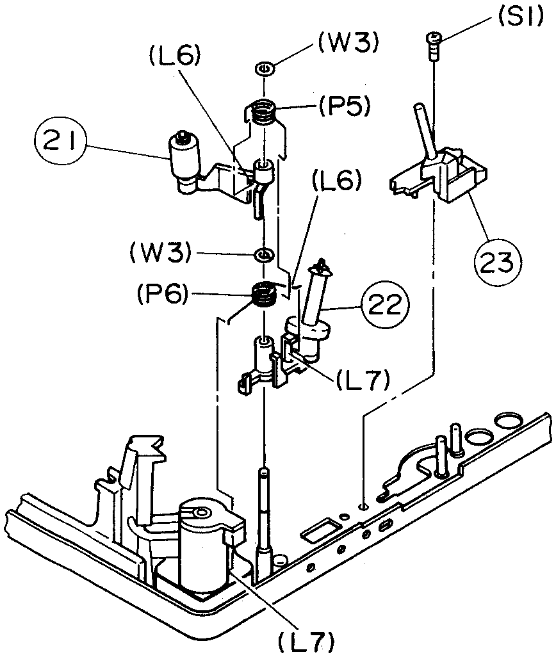

(S1)
(W3)
(L6)
(P5)
21
(L6)
(W3)
23
(P6)
22
(L7)
(L7)

Fig. M9

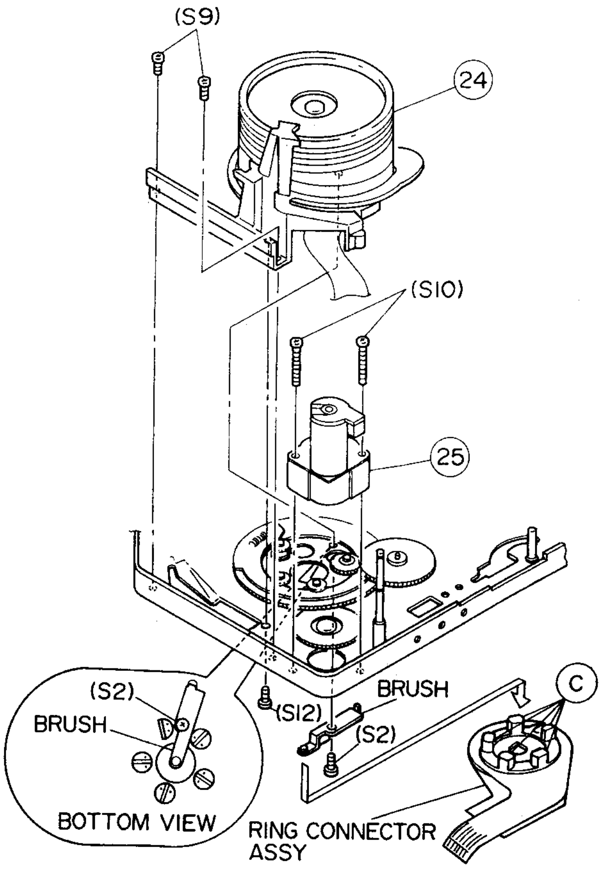

(S9)
24
(S10)
25
(S2)
BRUSH
BOTTOM VIEW
(S12)
BRUSH
(S2)
C
RING CONNECTOR
ASSY

Fig. M10

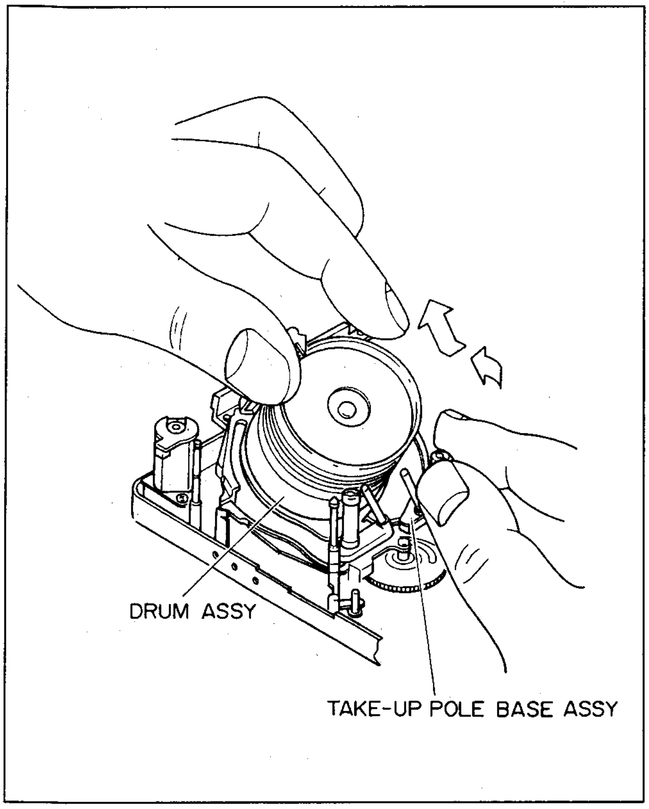

DRUM ASSY
TAKE-UP POLE BASE ASSY

Fig. M11

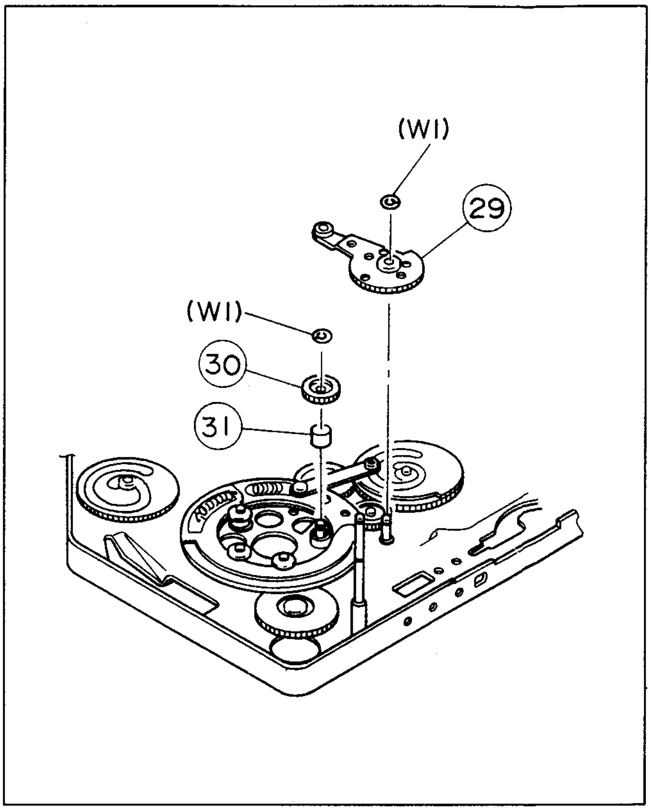

(W1)
29
(W1)
30
31

Fig. M13

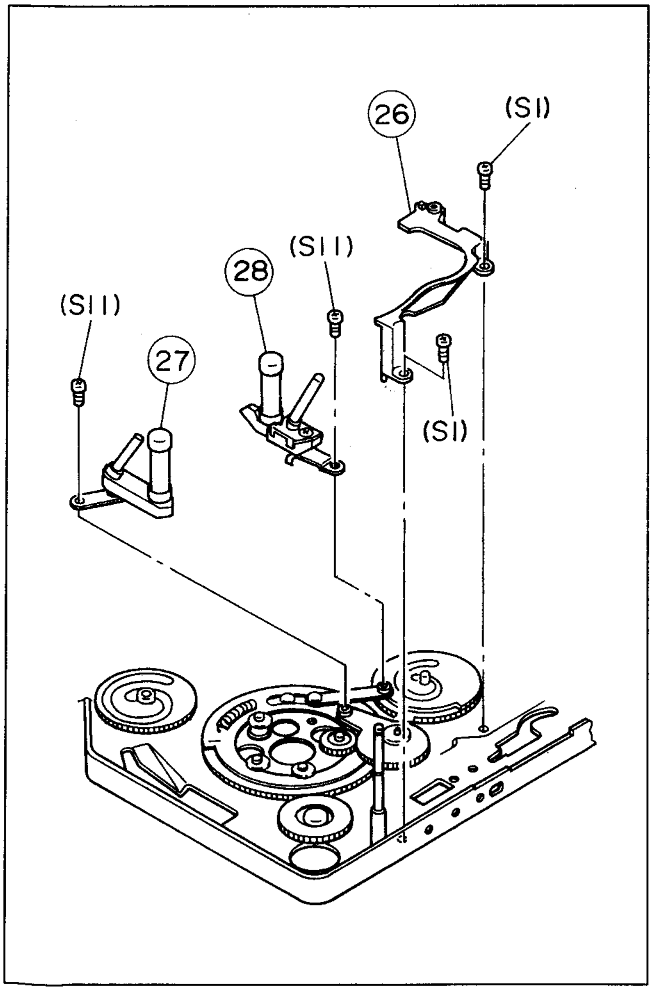

26
(S1)
(S11)
28
(S11)
27
(S1)

Fig. M12

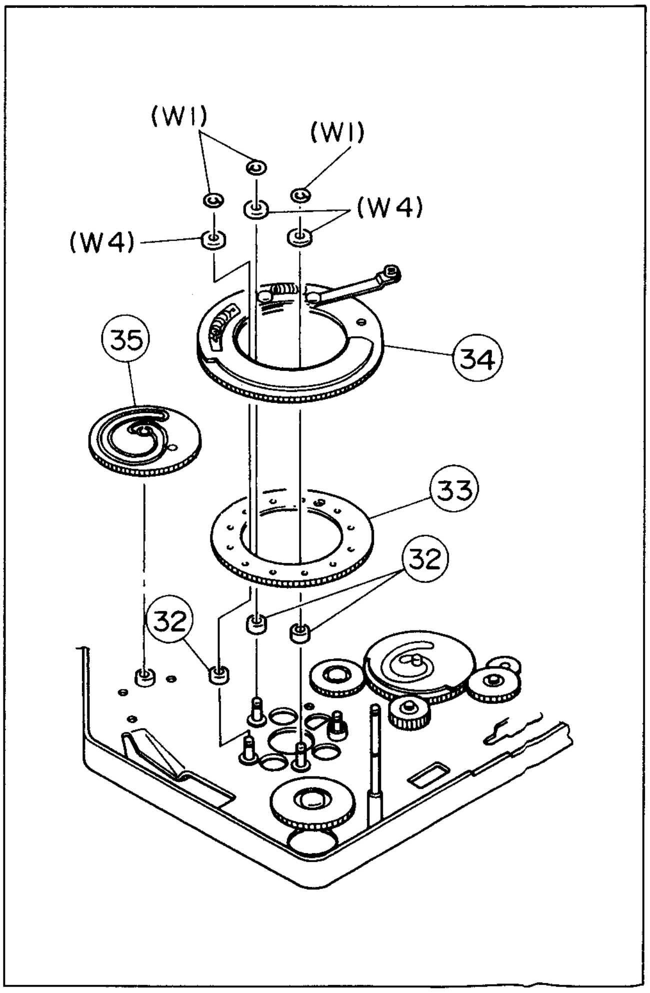

(W1)
(W1)
(W4)
(W4)
35
34
33
32
32

Fig. M14

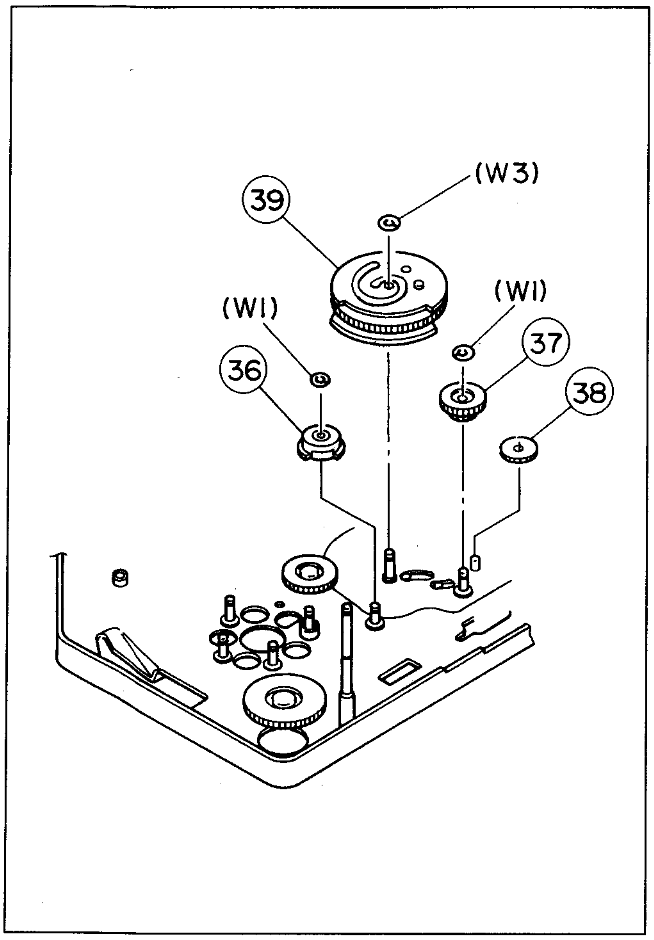


Fig. M15

Reference Notes:

<NOTE 1>

Destination of connectors

Note: three kinds of double-arrows in connection tables respectively show kinds of connector/wires.

⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

Connector	No. of Pins	Connector
Ⓐ	2	MODE CTL MOTOR ↔ SENSOR CN2
Ⓑ	2	A/C head ↔ DEW SENSOR
Ⓒ	18	RING CONNECTOR ASSY ⇔ DRUM ASSY

<NOTE 2>

For removing the drum assy, hold the drum assy and the take-up pole base assy while sliding the drum assy in the direction of the arrow so as to slide the take-up pole base assy off the drum assy take-up guide rail.

<NOTE 3>

See, Adjustment procedure for TAPE TRANSPORT ADJUSTMENT section 2.5.

<NOTE 4>

When disconnecting, do it very carefully since the other side connector (SENSOR board side) is attached to ⓐ flexible wire.

<NOTE 5>

Position of parts

<NOTE 6>

Position of parts.

<NOTE 7>

Reassembly, align capstan motor guide pin with middle pole cam gear, positioning marked ⓐ in Fig. M8.

2.3 REPLACEMENT OF UPPER DRUM

Note: Be very careful not to touch any hand of a new upper drum as well as not to damage the drum.

2.3.1 Removal of upper drum

1. Carefully unsolder at 10 points shown in Fig. 2-3-1 on the UPPER DRUM board.
   Note: If solder is not completely removed, it may cause damage of the head pins when the upper drum is removed.

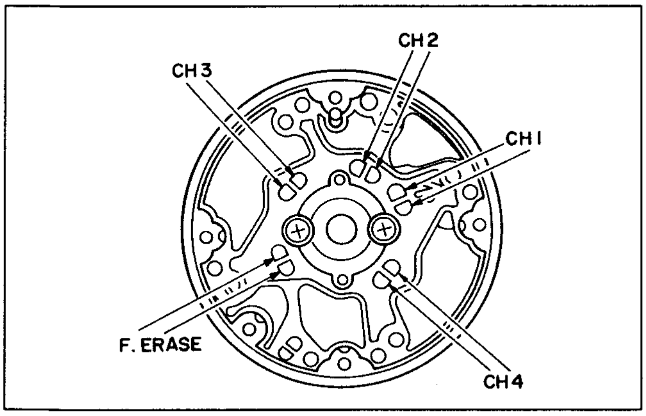


Fig. 2-3-1 Upper drum replacement (1)

2. Remove two screws and draw out the upper drum in the direction of the arrow.

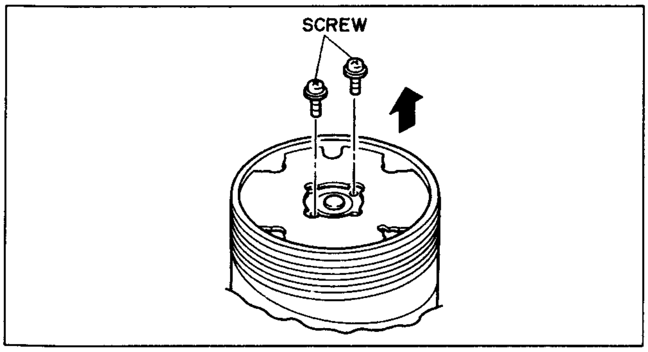


Fig. 2-3-2 Upper drum replacement (2)

3. When it is hard to remove the upper drum, set the upper drum removal tool (YTU94031A) with the screws which are once removed in the step 2, and tighten the center screw to remove it easily.

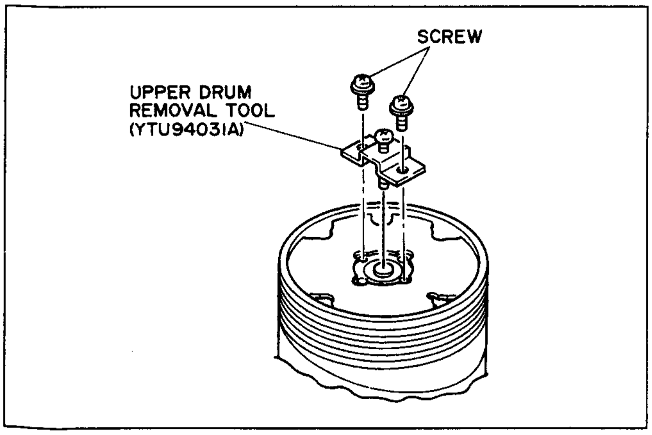


Fig. 2-3-3 Upper drum replacement (3)

2.3.2 Installation of new upper drum

1. Before installing a new upper drum, insert a soldering iron (50 W) into the hole of the upper drum and heat it for about 3 to 5 minutes to expand it.

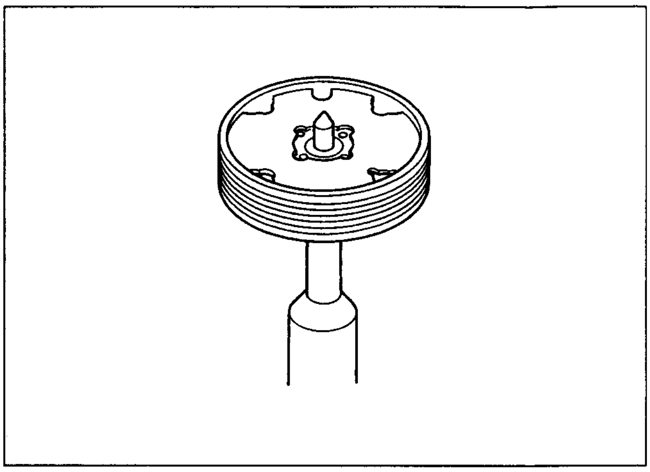


Fig. 2-3-4 Upper drum replacement (4)

2. Install the new upper drum so that its arrow marking is positioned at an angle of 140° to the rotary transformer's mold (having no relay pin) of the lower drum.

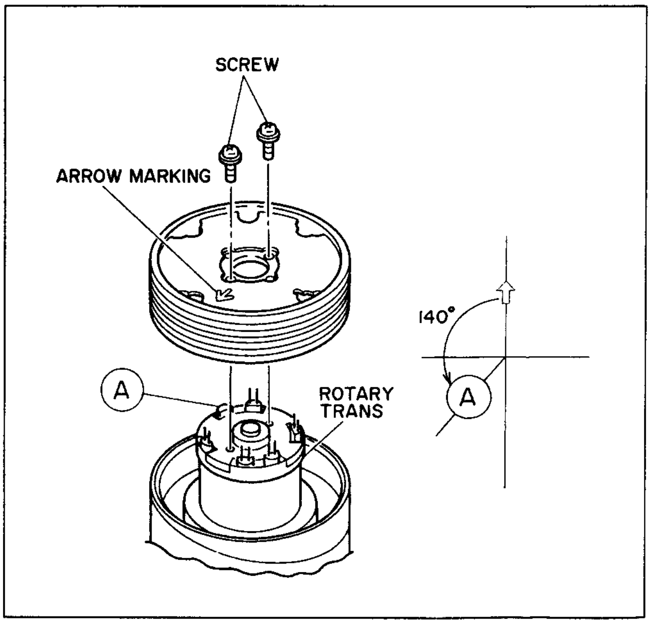


Fig. 2-3-5 Upper drum replacement (5)

3. Tighten the screws lightly first, then, alternately tighten them gradually as the upper drum is cooled.
4. After replacement finishes, make sure to check up and deck section adjust.

2.4 CHECHKUP AND ADJUSTMENT OF MECHANISM PHASE

Note: Pay careful attention to the installing order and phase of mechanism parts of the loading system.

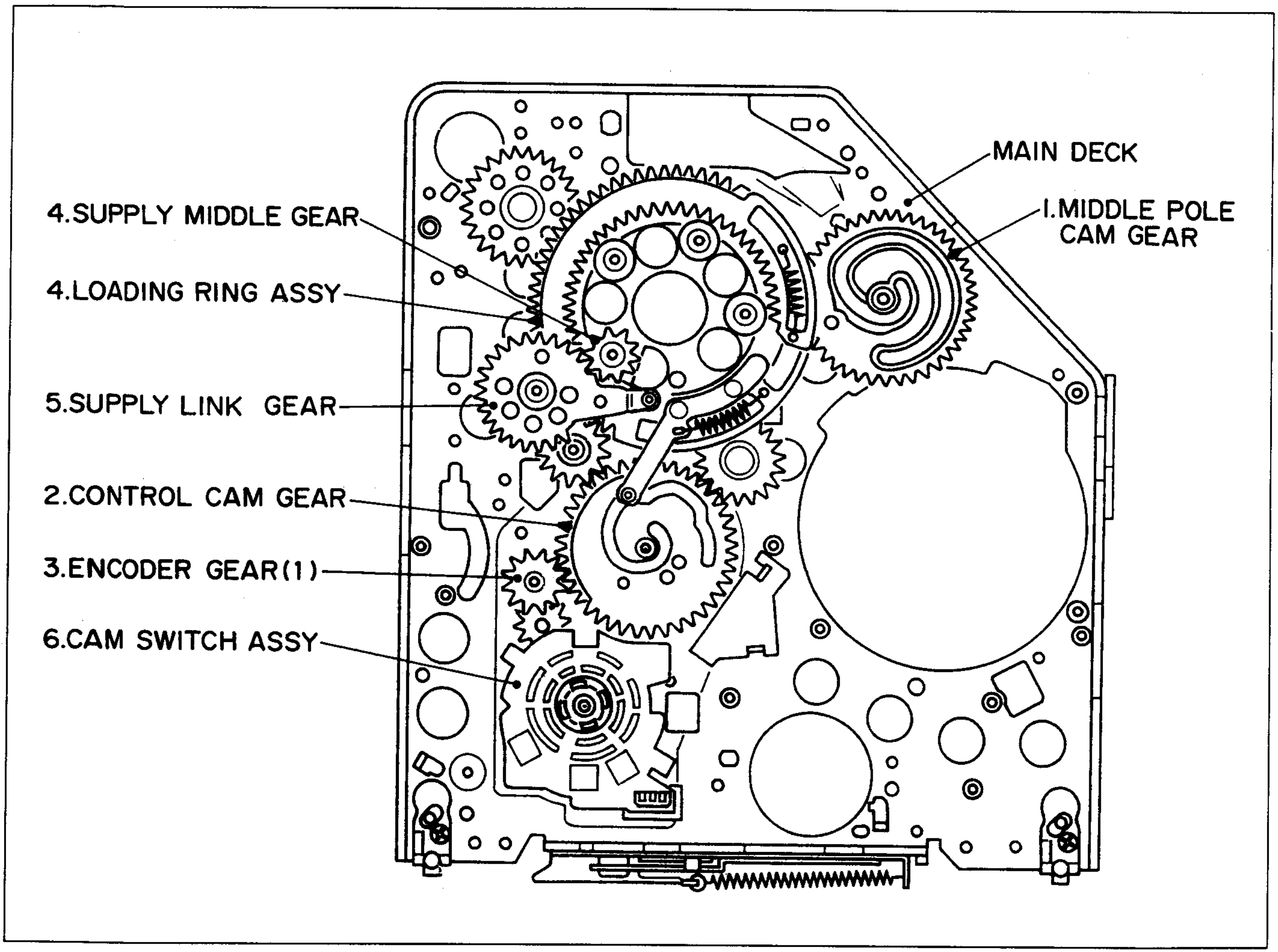

4.SUPPLY MIDDLE GEAR
4.LOADING RING ASSY
5.SUPPLY LINK GEAR
2.CONTROL CAM GEAR
3.ENCODER GEAR(1)
6.CAM SWITCH ASSY
MAIN DECK
1.MIDDLE POLE CAM GEAR

Fig. 2-4-1 Phase adjustment of loading system

1. Middle pole cam gear
   Position the middle pole cam gear so that its adjusting hole of the main deck coincide with each other.

2. Control cam gear
   Position the control cam gear so that its adjusting hole of the main deck coincide with each other.

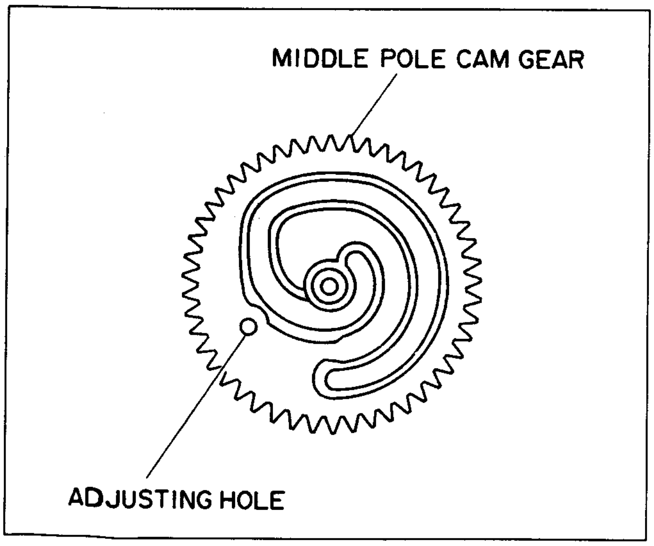

MIDDLE POLE CAM GEAR
ADJUSTING HOLE

Fig. 2-4-2 Middle pole cam gear

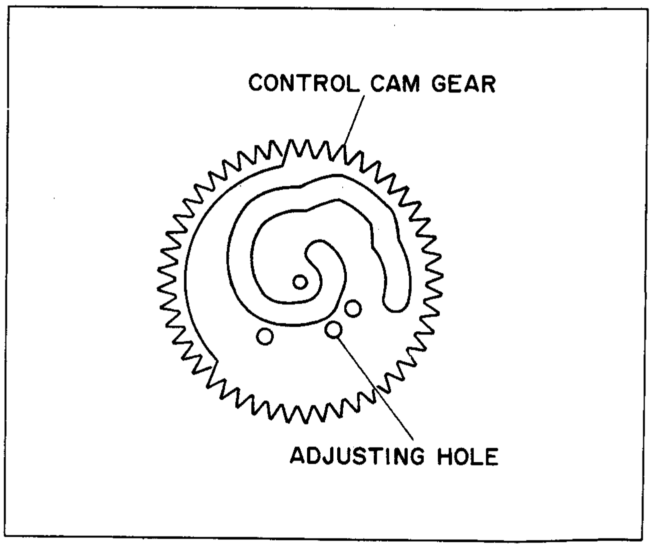

CONTROL CAM GEAR
ADJUSTING HOLE

Fig. 2-4-3 Control cam gear

3. Encoder gear (1)
   Engage the encoder gear (1) with the control cam gear so that the marking of the encoder gear(1) is positioned in the line between the axes of the encoder gear (1) and the control cam gear.

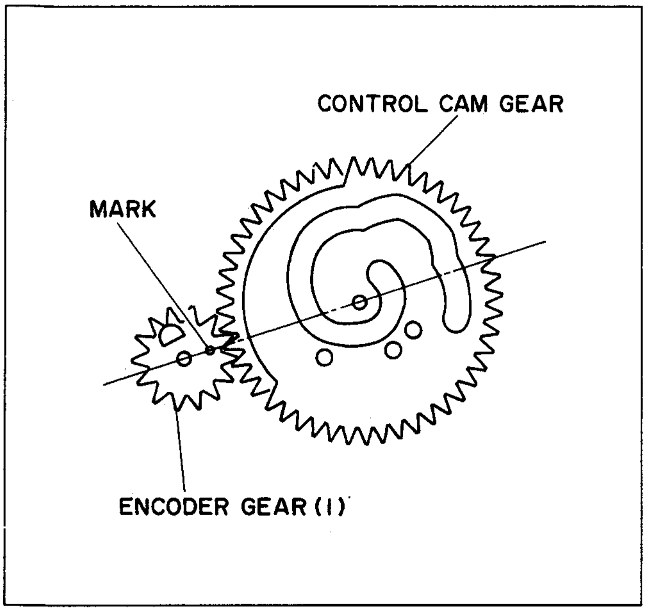

CONTROL CAM GEAR
MARK
ENCODER GEAR (1)

Fig. 2-4-4 Encoder gear (1)

4. Loading ring assembly, supply middly gear
   Use supply link gear to established position of loading ring assembly, then remove supply link gear till next slignment. Engage the supply middle gear with the loading ring assembly so that two teeth of the supply middle gear and the internal first two teeth of the loading ring assembly are meshing with each other.

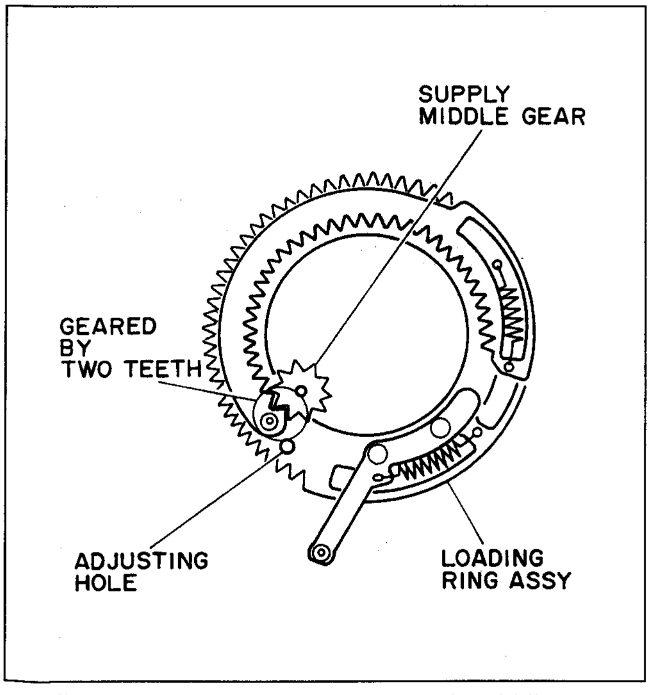

SUPPLY
MIDDLE GEAR
GEARED
BY
TWO TEETH
ADJUSTING
HOLE
LOADING
RING ASSY

Fig. 2-4-5 Loading ring assy, supply middle gear

5. Supply link gear
   Engage the supply link gear so that its hole coincides with that of the loading ring assembly.

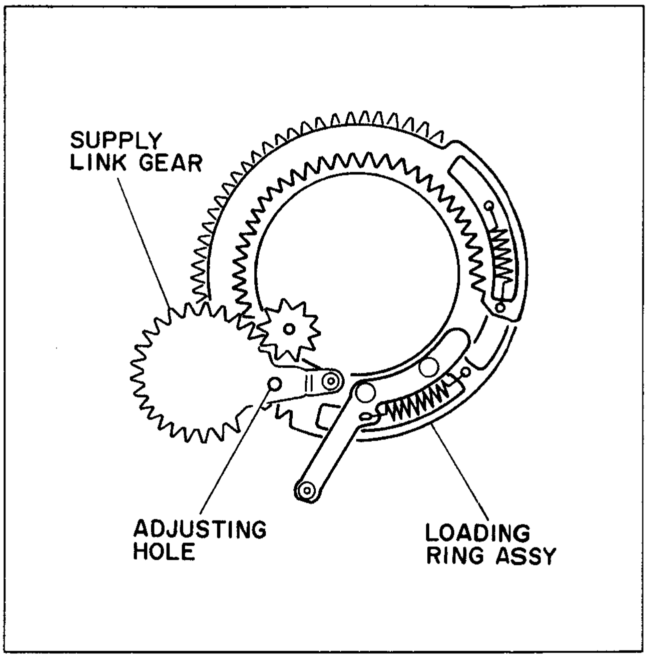

SUPPLY
LINK GEAR
ADJUSTING
HOLE
LOADING
RING ASSY

Fig. 2-4-6 Supply link gear

6. Cam switch assembly
   Set the cam switch assembly so that the notch of its gear teeth coincides with both the rectangle hole Ⓐ and the hold of the main deck.

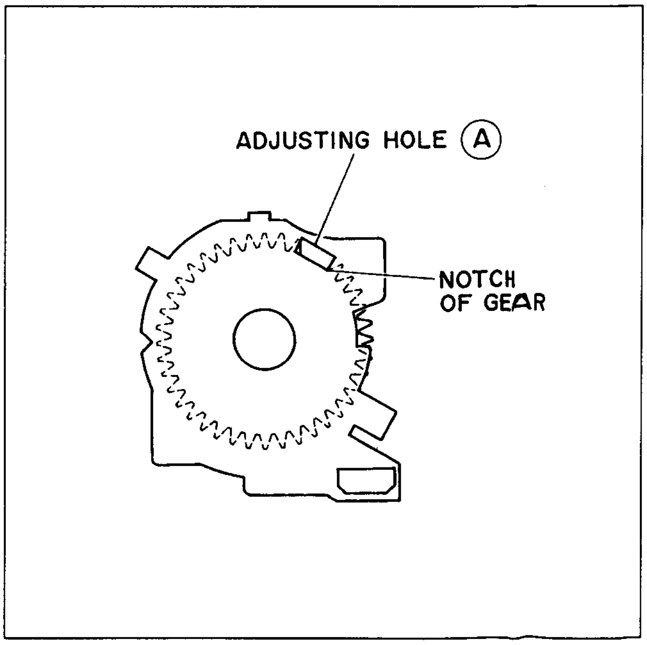

ADJUSTING HOLE Ⓐ
NOTCH
OF GEAR

Fig. 2-4-7 Cam switch assy

After completion of the above steps 1 through 6, make sure to confirm that respective phases are correct.

2.5 TAPE TRANSPORT ADJUSTMENT

In most cases the deck section is in need electrical adjustment, it results from replacement of worm mechanical parts or video heads. In the event of malfunction with electrical circuits, troubleshouting with the aid of proper test instruments most be done first, and then commence necessary repair, replacement and adjustment, etc.

2.5.1 Required adjustment tools

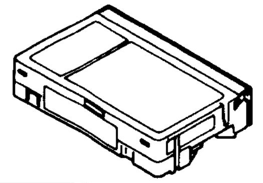
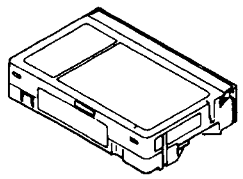
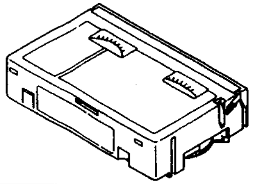
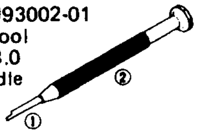
Alignment tape for SP interchangeability (MHPE-C or MH-C2)	Alignment tape for LP interchangeability (MHPE-LC)
	
Cassette torque meter PUJ50431-2	A/C head positioning tool YTU93002A (incl. ① & ②)
	① YTU93002-01 Bit tool ② PD-3.0 Handle  Orders for ① & ② can be placed separately.

Table 2-5-1

2.5.2 Back tension

1. Set a cassette torque meter onto the deck and measure the back tension in standard REC mode to confirm that the back tension is 13 – 22 gr-cm.
2. If not, replace the tension band.
   When the value widely fluctuates in the measurement, replace the supply reel disk.
3. With the cassette torque meter, confirm that the play torque is 20 – 35 gr-cm.
   If necessary, replace the take-up clutch gear.

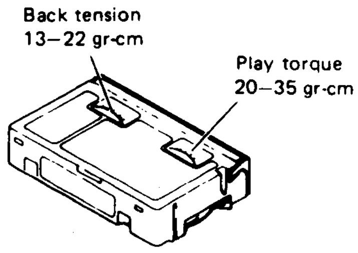


Fig. 2-5-1 Cassette torque meter

2.5.3 Tape pattern

1. Observe signal at CN15 pin 1 (V TP FM) with external trigger from CN15 pin 7 (V. H. FF) on the MAIN board.
2. Play back the SP stairstep signal of the alignment tape, and maximize the FM waveform by the tracking button.
3. If the observed FM waveform is not flat, adjust the height of the supply or take-up guide roller with an ordinary screwdriver (–).

   Note: To prevent the tape from damage, turn the guide rollers slowly.
4. By operating the tracking button (both in + and – directions) in the manual tracking mode, vary the output level of the FM waveform from maximum to minimum and vice versa to confirm that the waveform varies nearly in a flat shape.
5. when the FM waveform breaks in the level varying process, subtly adjust the height of guide rollers at every breaking point so that the wavefrom varies as flat as possible.

   Repeat the above steps 4. and 5. several times to confirm that the waveform is flat as a whole.
6. Play the LP stair step signal of alignment tape and adjust the tracking control to maximize the FM waveform, confirm that FM waveform variation is always flat.
7. Record the signal and play it back in both of the SP and LP mode, and confirm that the FM waveform is flat in both modes.

Note: If there is FM falling at the supply side during self-recording and playback in both of the SP and LP mode, recheck back tension first. When back tension is normal, replay stairstep signal of the alignment tape and perform fine adjustment of the supply guide pole height (turn the supply guide pole counterclockwise at an angle of 30° approx.) to obtain flat FM waveform.

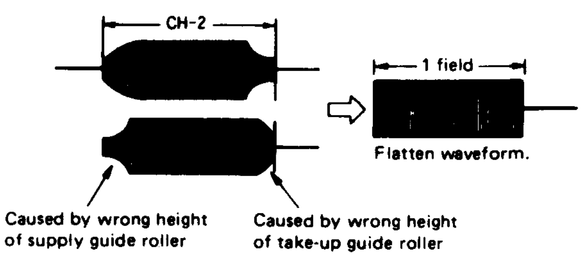

CH-2
1 field
Flatten waveform.
Caused by wrong height of supply guide roller
Caused by wrong height of take-up guide roller

Fig. 2-5-2 FM waveform-1

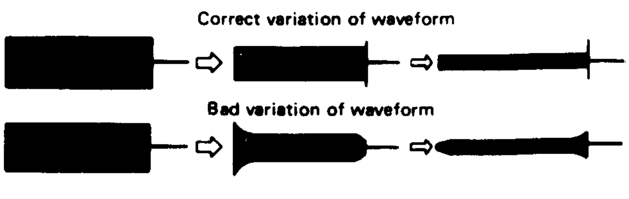


Fig. 2-5-3 FM waveform-2

8. Through the above steps, confirm that there occur no wrinkling and damage in the tape around the impedance roller and TU side guide pole whenever the deck is in operation of Loading/Unloading, Search Rewind and at mode change from Search Rewind to play mode. If wrinkling or damage in the tape occurs around the TU guide pole, adjust the angle (slant) of the A/C head to the tape. So that the tape normally runs along the lower flange of the guide pole.

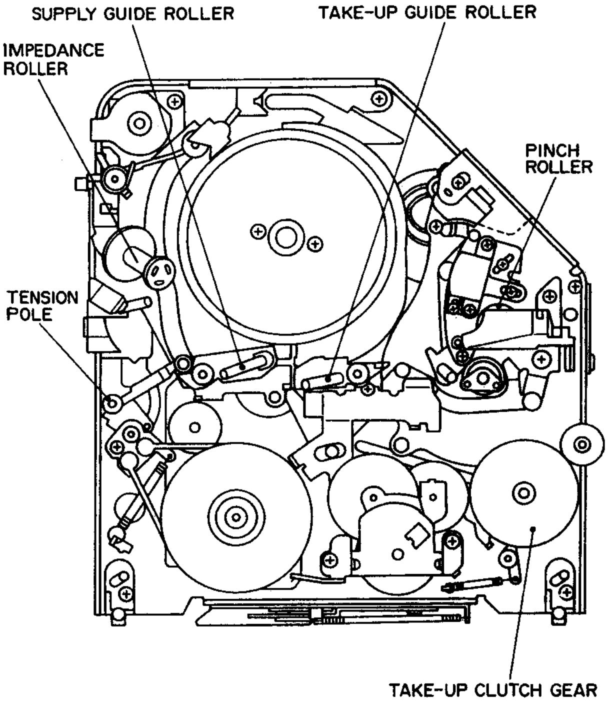

SUPPLY GUIDE ROLLER
TAKE-UP GUIDE ROLLER
IMPEDANCE ROLLER
PINCH ROLLER
TENSION POLE
TAKE-UP CLUTCH GEAR

Fig. 2-5-4 Tape transport system

2.5.4 A/CTL head height & azimuth

1. Play back the SP 6 kHz segment of the alignment tape (MHPE-C or MH-C2) and observe waveform at TP403 (AUDIO OUT) on the MAIN board.

   Note: When the output level fluctuation is less than –2dB, adjustment is not required.

2. If necessary, turn the screw Ⓐ (reference), Ⓑ (bent forward) and Ⓒ (azimuth) gradually (at an angle of 45° approx.) in the same direction to obtain the maximum output level.
3. As final fine adjustment, adjust the screw Ⓑ for minimum level fluctuation and the screw Ⓒ for maximum output level.

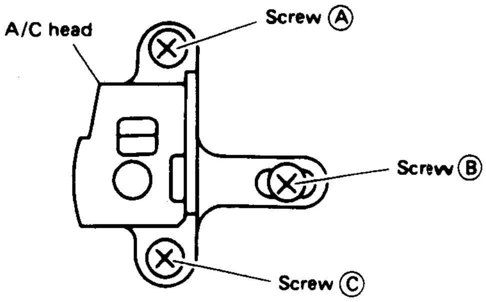

A/C head
Screw Ⓐ
Screw Ⓑ
Screw Ⓒ

Fig. 2-5-5 A/C head

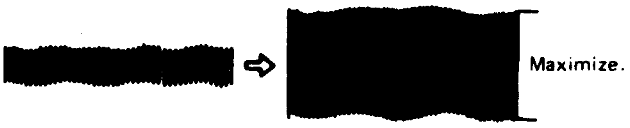


Fig. 2-5-6 Audio signal

2.5.5 Phase of control head (X value)

1. Play back the SP stairstep signal of the alignment tape (MHPE-C or MH-C2) and observe waveform at CN15 pin 7 (V. H.FF) on the MAIN board.
2. Operate the tracking button in the manual tracking mode and confirm that the FM output level is maximum at the center position of the tracking button as shown in Fig. 2-5-8.
3. If necessary, slightly loosen the setscrews Ⓓ and Ⓔ and insert the tip of the A/C head positioning tool into the notch and guide hole to move the A/C head fully in the direction of the capstan to the extent.
4. Gradually move the A/C head toward the drum to find the position where the FM output level maximum for the first time (a' - b' in Fig. 2-5-8)
5. Fine adjust the phase of the A/C head and tighten the setscrews Ⓓ and Ⓔ at the point c which is the midpoint between a and b.
6. Play back the LP stairstep signal of the alignment tape (MHPE-LC) and confirm that the FM waveform is maximized at the centre detent position of the tracking button.
7. Confirm that the above steps 2. and 6. are satisfactory at the same time.
   If not, repeat the steps 3. through 6..

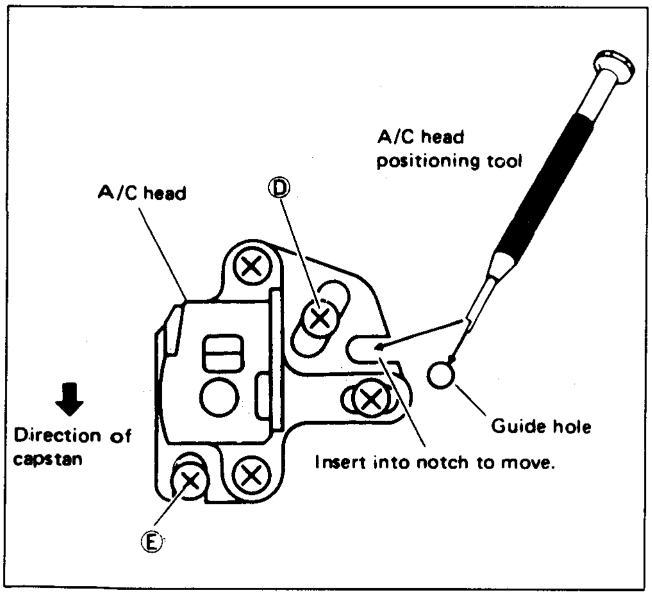


Fig. 2-5-7 Phase of control head

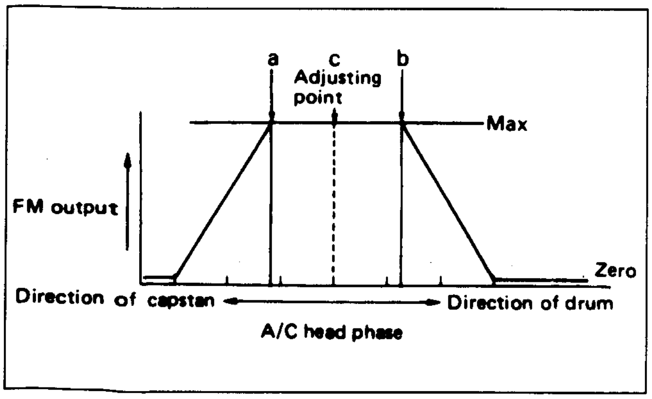


Fig. 2-5-8 Phase adjustment point of control head

2.6 REMARKS

2.6.1 Cleaning

1. For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth or Kimwipe with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

   Note: Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.
2. For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.
3. After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.6.2 Applying oil and grease

1. Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.
2. For parts and points to apply oil and grease, refer to the exploded view of the mechanism assembly (M3).
   Table 2-6-1 specifies oil and grease to be used.
3. When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Name	Part No.	Symbol in drawing
Grease	Moriton Grease No. 1	MOS2-C	A
Oil	Cosmo Hydro HV100	YTU94027	B

Table 2-6-1 Specific oil and grease to be used

2.6.3 Checkup

After replacement of the supply reel disk and tension band, make sure to inspect back tension according to the adjustment procedure of MECHANISM ADJUSTMENT section.

SECTION 3
ELECTRICAL ADJUSTMENT

3.1 DECK SECTION ADJUSTMENT

3.1.1 PREPARATION

1. Precaution

In most cases the deck section is in need of electrical adjustment, it results from replacement of worn mechanical parts or video heads.
In the event of malfunction with electrical circuits, trouble-shooting with the aid of proper test instruments most be done first, and then commence necessary repair, replacement and adjustment, etc.

1. In case of wiring to chip test points for measurement, use IC clips, etc. to avoid any stress.
2. Since connectors are fragile, carefully handle them in disconnecting and connecting.
3. Shortcircuit between opration unit and DECK chassis.

2. Required test equipment

1. Colour TV monitor
2. AC power adapter
   (AA-V10 or AA-V3 and AA-V6U or equivalent)
3. Oscilloscope
   (Dual-trace type, for more than 20 MHz)
4. Audio level meter and audio signal generator
5. Video signal generator
6. Sweep generator

3. Required adjustment tools

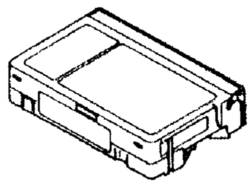
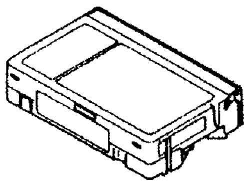
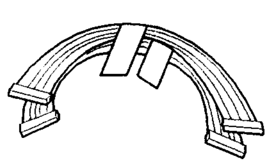
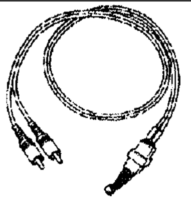
Alignment tape for SP interchangeability (MHPE-C or MH-C2)	Alignment tape for N.SP PB Y/C level (MHVE-2C or MH-C2)
	
Patch cords set YTU93066A	Y/C separator cable YTU93006
	

Table 3-1-1 (A)

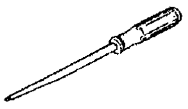
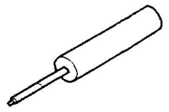
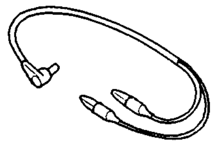
0.35 mm adjusting driver YTU94028	Ultramini VR adjusting driver YTU93036-2
	
Power cord YTU94060A	
	

Table 3-1-1 (B)

4. Colour bar signal, colour bar pattern and video sweep signal

- Colour bar signal

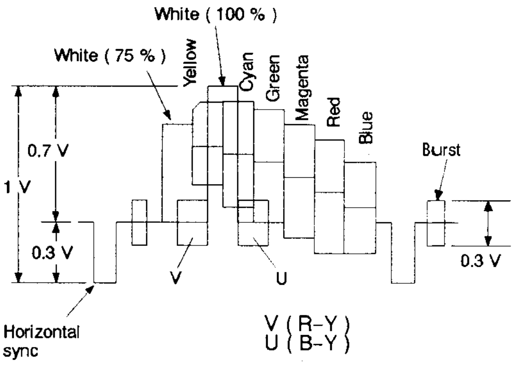

White (100 %)
White (75 %)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst
0.7 V
1 V
0.3 V
0.3 V
V
U
Horizontal sync
V (R-Y)
U (B-Y)

Fig. 3-1-1 Colour bar signal waveform

- Colour bar pattern

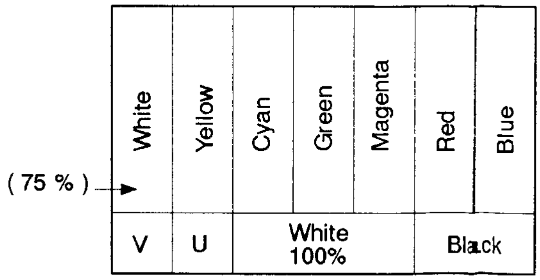

White
Yellow
Cyan
Green
Magenta
Red
Blue
(75 %)
V
U
White 100%
Black

Fig. 3-1-2 Colour bar pattern

- Video sweep signal

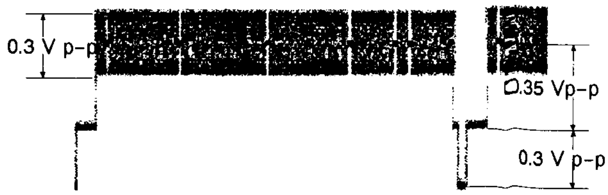

0.3 V p-p
0.35 Vp-p
0.3 V p-p

Fig. 3-1-3 Video sweep signal

5. Connection for adjustment

Disassembly the deck section from the other units, and connect it with test equipment as shown in Fig. 3-1-4.

Connector	No. of pins	Parts Number	Connection
①	4 ←→ 27	PEMCJ0859-27T	Y/C Separator ←→ MAIN CN3

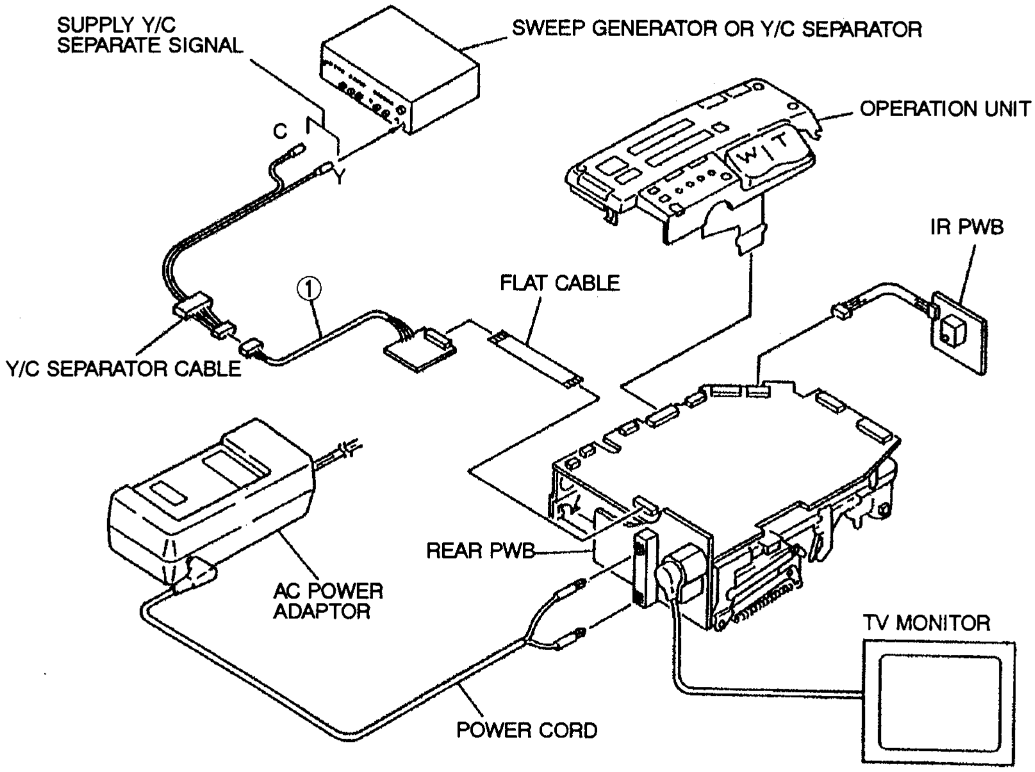

SUPPLY Y/C SEPARATE SIGNAL
SWEEP GENERATOR OR Y/C SEPARATOR
C
Y
OPERATION UNIT
IR PWB
①
FLAT CABLE
Y/C SEPARATOR CABLE
REAR PWB
AC POWER ADAPTOR
TV MONITOR
POWER CORD

Fig. 3-1-4 Standard setup for deck section adjustment

6. Y/C separate signal supply

Y/C separate signal can be supplied in these three explaine as shown in below.

1. Y/C signal supply from a Y/C separator fixture.

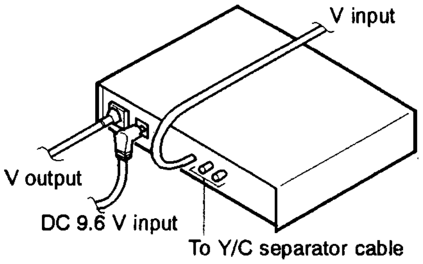

V input
V output
DC 9.6 V input
To Y/C separator cable

Fig. 3-1-5 Y/C separator

2. Y/C signal supply from through S-VHS video recoder.

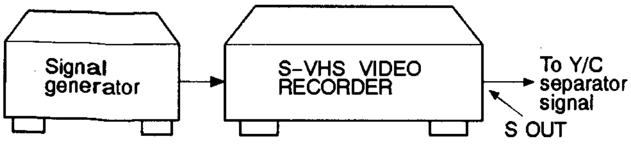

Signal generator
S-VHS VIDEO RECORDER
To Y/C separator signal
S OUT

Fig. 3-1-6 S-VHS video recoder

3. Y/C signal supply by direct separation of composite signal.

1) If such a cable as shown below is prepared, composite signal can be supplied to Y and C circuit.

Notes: · *For luminance (Y) signal circuit adjustment.*
There is no problem with using composite signal.
· *For colour (C) signal circuit.*
Picture noise appears in TV monitor, but there is no effect for the adjustment.

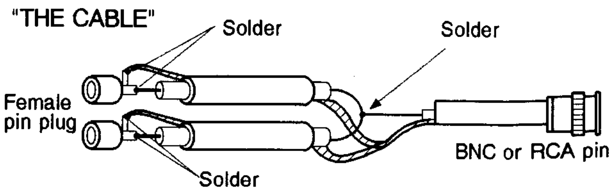

"THE CABLE"
Solder
Solder
Female pin plug
Solder
BNC or RCA pin

Fig. 3-1-7 Direct separation

3.1.2 REGULATOR CIRCUIT

Notes:
- *Unless otherwise specified, all measurement points and adjustment parts are located on REAR board.*
- *During adjustment, apply 6.0 V DC from a DC power supply or an AC power adaptor to the rear board holder assembly pins. (Use care regarding pin polarity.)*

1. REG 5V

Signal	• -
Mode	•EE
Equipment	•Digital voltmeter
Measurement point	•TP2 (REG 5 V (1))
Adjustment part	•R16 (SA ADJ)
Specification	•5.0 ± 0.1 V DC

1) Connect a digital voltmeter to TP2.
2) Adjust R16 for 5.0 V DC.

3.1.3 SERVO CIRCUIT

Notes:
- *This adjustment most be preformed after the upper drum assembly or lower drum assembly is replaced.*
- *Unless otherwise specified, all measurement points and adjustment parts are located on MAIN board.*

1. PB switching point

Signal	•Alignment tape [MHPE-C OR MH-C2] •SP stairstep
Mode	•PB
Equipment	•Oscilloscope
Measurement point	•TP510 (VIDEO OUT)
EXT. trigger	•TP502 (DRUM FF) (-) slope
Adjustment part	•R138 (PB SW POINT)
Specification	•6.5 ± 1 H

1) Observe waveform at TP510 with external trigger (negative slope) from TP502.
2) Adjust R138 so that the trigger point is 6.5 H before V. sync. signal.

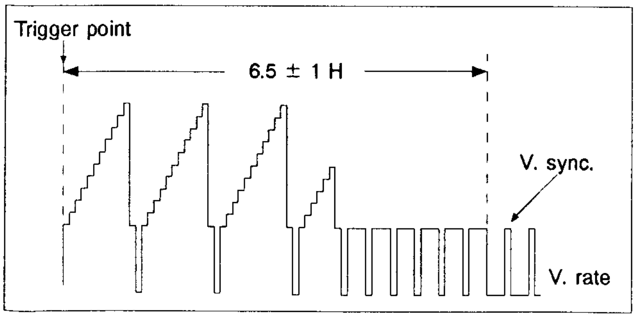


Fig. 3-1-8 PB switching point

3.1.4 VIDEO CIRCUIT

Notes:
- *This adjustment most be preformed after the upper drum assembly or lower drum assembly is replaced.*
- *Unless otherwise specified, all measurement points and adjustment parts are located on MAIN board.*

1. EE Y level

Signal	•Colour bar
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•TP510 (VIDEO OUT)
Adjustment part	•R604 (EE LEVEL)
Specification	•2.0 ± 0.1 Vp-p (Unterminated)

1) Connect an oscilloscope to TP510.
2) Adjust R604 so that Y signal level is 2.0 Vp-p.

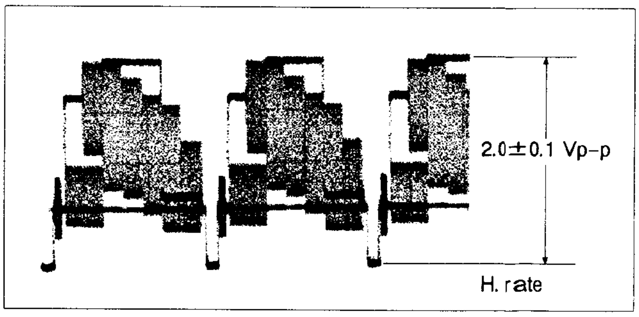


Fig. 3-1-9 EE Y level

2. PB Y LEVEL

Signal	•Alignment tape [MHVE-2C or MH-C2] •Colour bar
Mode	•PB
Equipment	•Oscilloscope
Measurement point	•TP510 (VIDEO OUT)
Adjustment part	•R603 (PB LEVEL)
Specification	•2.0 ± 0.1 Vp-p (Unterminated)

1) Connect an oscilloscope to TP510.
2) Adjust R603 so that Y signal level is 2.0 Vp-p.

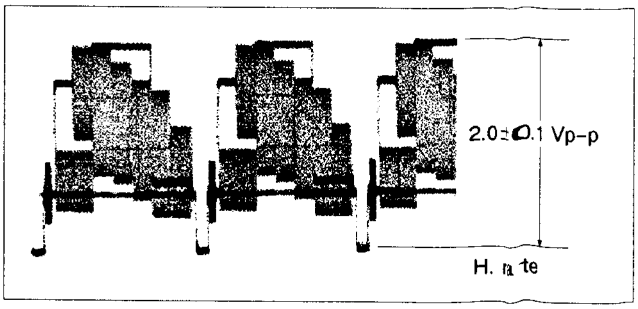


Fig. 3-1-10 PB Y LEVEL

3. YNR INPUT level

Signal	•Colour bar
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•TP504 (YNR)
Adjustment part	•R606 (1H DL SIG LEVEL)
Specification	•Minimum

1) Connect an oscilloscope to TP504.
2) Adjust R606 to minimum DC step difference of the waveform at TP504.

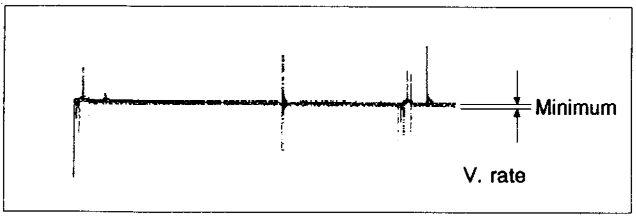


Fig. 3-1-11 YNR INPUT level

4. Carrier/deviation

Notes: *This item should be adjusted only in the following situations.*

a) EE and PB systems are normal, but sync. is distorted (incorrect carrier setting) in playback of self-recoded signal.
b) White components are attenuated (wrong deviation).
c) In spite of recoding with input level of 2.0 Vp-p, output level is too small and S/N is very poor.

- Carrier

Signal	•No input signal
Mode	•REC •LP
Equipment	•Frequency counter
Measurement point	•TP501 (REC FM)
Adjustment part	•R602 (CARRIER)
Specification	•3.8 MHz ± 100 kHz

1) Connect the frequency counter to TP501.
2) Adjust R602 so that the frequency becomes 3.8 MHz.

- Deviation

Signal	•Colour bar
Mode	•REC→PB •LP
Equipment	•Oscilloscope
Measurement point	•TP510 (VIDEO OUT)
Adjustment part	•R601 (DEVIATION)
Specification	•2.0 ± 0.1 Vp-p (Unterminated)

3) Record the colour bar signal and then play the same portion.
Confirm that TP510 output level is 2.0 Vp-p.
4) IF it is out of the above specification, adjust R601 during recoding and repeat above step 3).

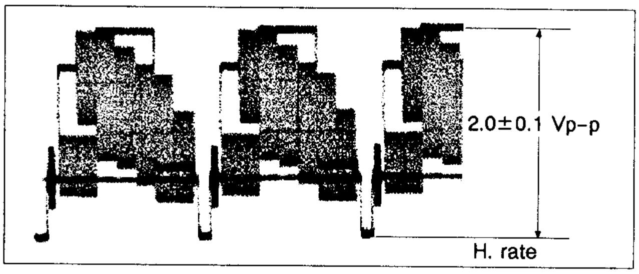


Fig. 3-1-12 Deviation

5. VIDEO EQ

Note: *This item should be adjusted when playback of self-recording picture is not sharp (too low 2 MHz component) after replacement of the upper drum or when there is B/W reversal (too hight 2 MHz component).*

Signal	•Video sweep
Mode	•REC→PB •SP
Equipment	•Oscilloscope
Measurement point	•TP510 (VIDEO OUT)
Adjustment part	•R608 (VIDEO EQ)
Specification	•3.2 ± 0.2 scale

1) Connect an oscilloscope to TP510.
2) Record a video sweep signal in SP mode and play it back to observe waveform at TP510.
3) Set the 100 kHz marker of the video sweep signal for 4 scale divisions on the oscilloscope screen, and adjust R608 so that the 2 MHz marker is for 3.2 scale divisions.

Note: *After reassembling the deck and camera sections, record a high contrasty object in SP and LP modes and play the recorded pictures respectively to confirm that there is no B/W reversal in the most contrasty part and the picture is colour and sharp on the whole.*

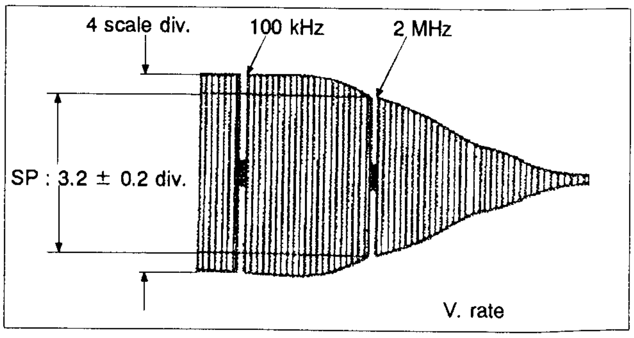


Fig. 3-1-13 VIDEO EQ

<Alternate method>

Signal	•Colour bar
Mode	•REC→PB •SP
Equipment	•TV monitor
Measurement point	•TV monitor screen
Adjustment part	•R608 (VIDEO EQ)
Specification	•Best resolution, without impaired S/N.

1) Record the colour bar signal in SP mode and play it back to observe the picture and adjust R608 for the best resolution, without impaired S/N.
2) So after adjustment, confirm black or white spot.

6. VCO

Signal	•Aligment tape [MHVE-2C or MH-C2] •Colour bar
Mode	•PB •SHUTTLE SEARCH
Equipment	•TV monitor
Measurement point	•TV monitor screen
Adjustment part	•R605 (VCO F0)
Specification	•The midpoint of two setting point

Note: ***This item hardly becomes out of order and need not to adjust unless playback picture recorded by the same machine is not coloured.***

1) With a TV monitor to obseve the image, adjust R605 to set it to the midpoint of two setting point in SHUTTLE SEARCH mode: one where the image first decolorizes with R605 turned counter-clockwise and the other where the image does the same with the VR turned clockwise.

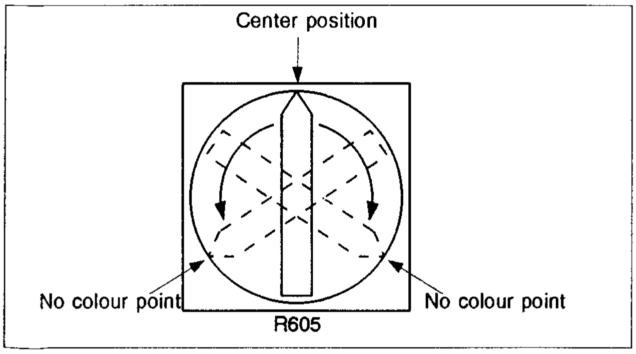


Fig. 3-1-14 VCO

7. REC colour level

Signal	•Alignment tape [MHVE-2C or MH-C2] : SP colour bar •Colour bar
Mode	•PB •REC→PB •SP
Equipment	•Oscilloscope
Measurement point	•TP507 (PB COLOUR)
EXT. trigger	•TP502 (DRUM FF)
Adjustment part	•R609 (REC COLOUR LEVEL)
Specification	•"A" x 90 ± 10%

1) Playback the SP colour bar signal of the alignment tape.
2) Observe waveform at TP507 with external trigger from TP502.
3) Note of the higher channel level for "A".

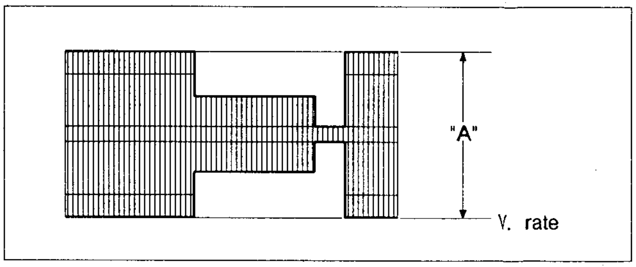


Fig. 3-1-15 PB colour level-1

4) Record colour bar signal in SP mode and play it back.
5) Adjust R609 repeatedly in recording so that the higher channel level is "A" x 90% in playback.

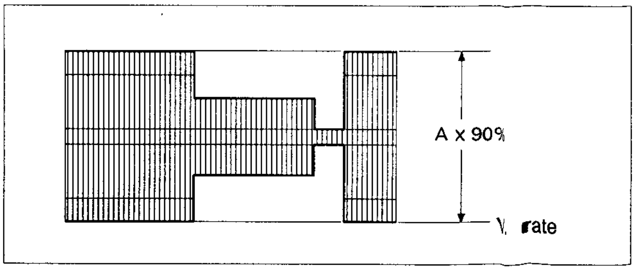


Fig. 3-1-16 PB colour level-2

3.1.5 AUDIO CIRCUIT

Note: *Unless otherwise specified, all measurement points and adjustment parts are located on MAIN board.*

1. Bias level

Signal	•No input signal
Mode	•REC •SP
Equipment	•Audio level meter
Measurement point	•TP401 (BIAS) •TP402 (BIAS [GND])
Adjustment part	•R416 (BIAS LEVEL)
Specification	•2.5 ± 0.1 mVrms

1) Connect an audio level meter to respective ends of TP401 and TP402.
2) Adjust R416 to obtain -50.0 dBs (7.0 mVp-p, 2.5 mVrms) in SP REC mode.

2. PB audio level

Signal	•Sine wave
Mode	•REC→PB •1 kHz •SP
Equipment	•Audio level meter
Measurement point	•TP403 (AUDIO OUT)
Adjustment part	•R408 (PB AUDIO LEVEL)
Specification	•-6 dBs (1.1 Vp-p, 0.39 Vrms)

1) Supply a sine wave of 1 kHz, -23 dBs (156 m Vp-p, 55 mVrms) to pin 1 of CN13 with 100 kΩ resistor.
2) Adjust R408 in recording so that playback level becomes -6 dBs (1.1 Vp-p, 0.39 Vrms) in playback.

■ ADJUSTMENT ELEMENT LOCATION FOR DECK SECTION

- REAR-

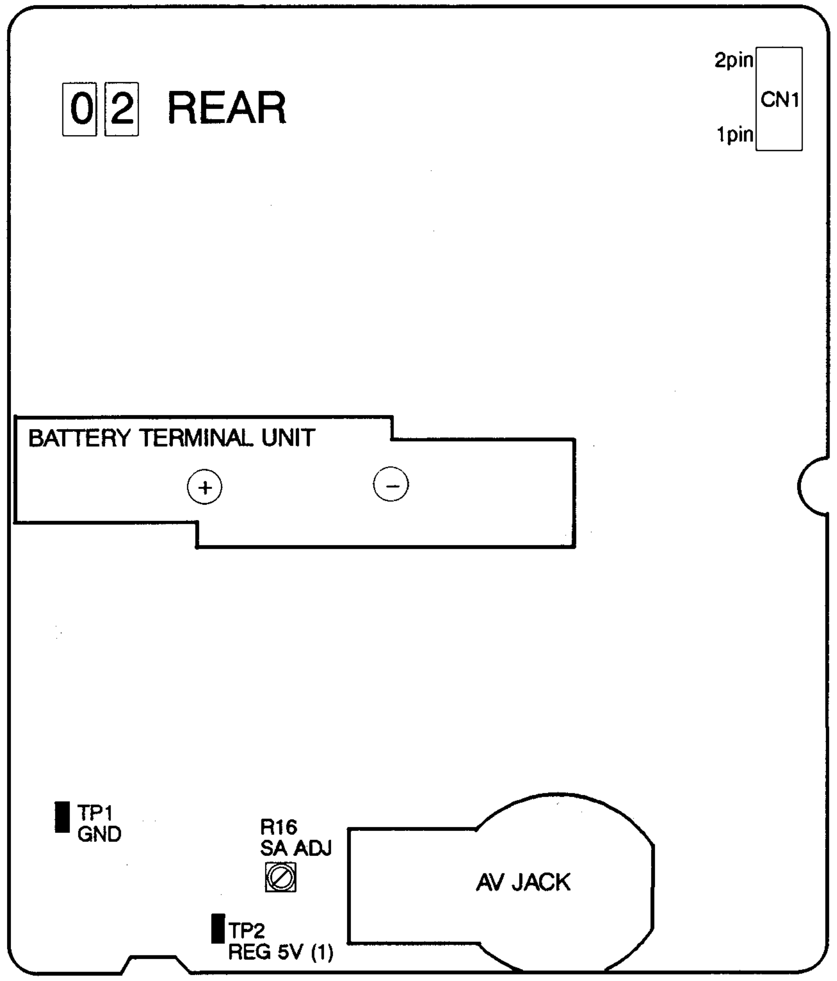

0 2 REAR
2pin
CN1
1pin
BATTERY TERMINAL UNIT
+
−
TP1
GND
R16
SA ADJ
TP2
REG 5V (1)
AV JACK

Fig. 3-1-17 Adjustment element location for REAR board assembly

- MAIN-

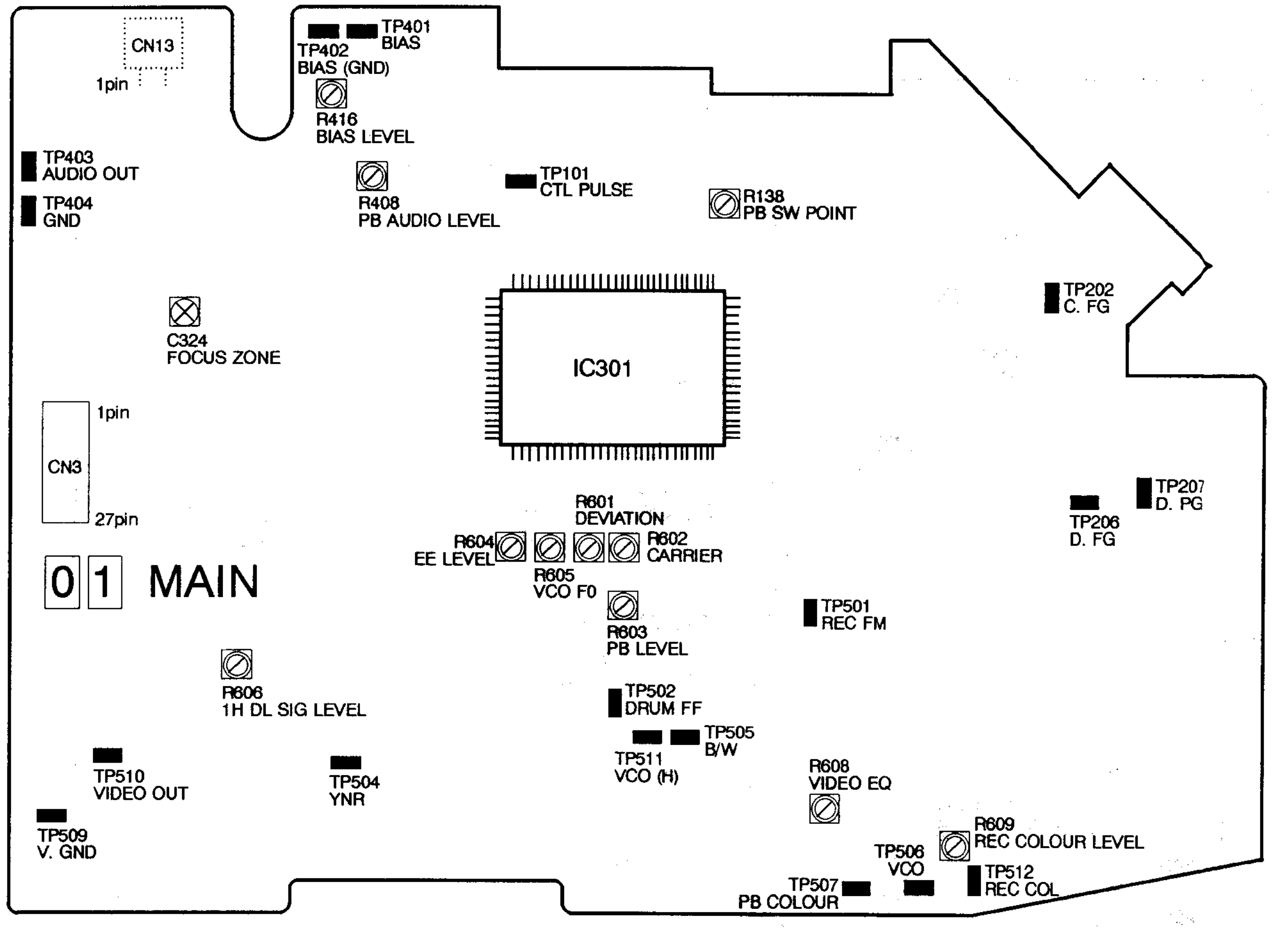

CN13
1pin
TP401
BIAS
TP402
BIAS (GND)
R416
BIAS LEVEL
TP403
AUDIO OUT
TP404
GND
R408
PB AUDIO LEVEL
TP101
CTL PULSE
R138
PB SW POINT
TP202
C. FG
C324
FOCUS ZONE
IC301
1pin
CN3
27pin
R601
DEVIATION
R604
EE LEVEL
R602
CARRIER
R605
VCO F0
TP207
D. PG
TP206
D. FG
0 1 MAIN
R603
PB LEVEL
TP501
REC FM
R606
1H DL SIG LEVEL
TP502
DRUM FF
TP505
B/W
TP511
VCO (H)
TP510
VIDEO OUT
TP504
YNR
R608
VIDEO EQ
TP509
V. GND
R609
REC COLOUR LEVEL
TP506
VCO
TP512
REC COL
TP507
PB COLOUR

Fig. 3-1-18 Adjustment element location for MAIN board assembly

■ ADJUSTMENT ELEMENT LOCATION FOR CAMERA SECTION

— CAMERA —

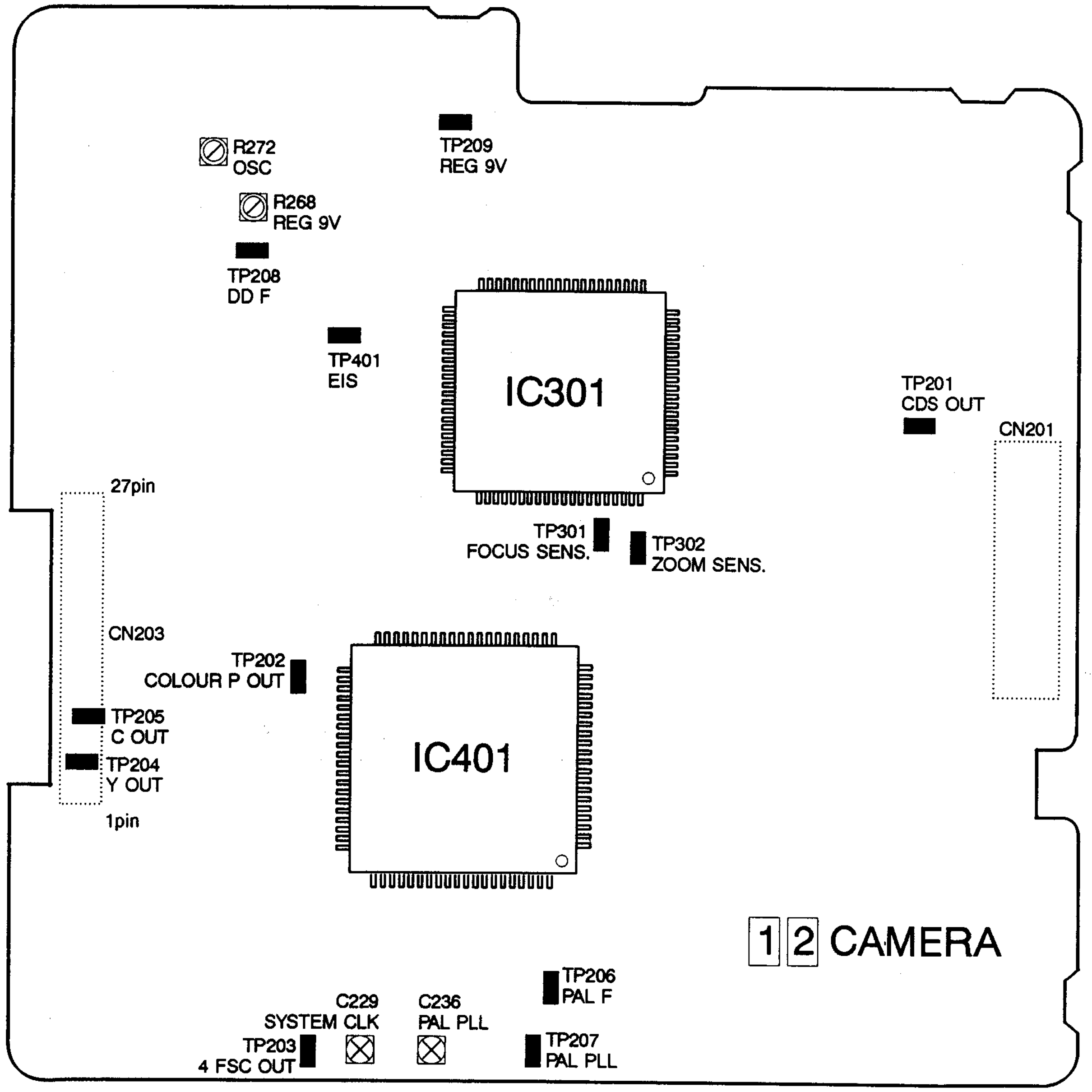

R272
OSC
TP209
REG 9V
R268
REG 9V
TP208
DD F
TP401
EIS
IC301
TP201
CDS OUT
CN201
27pin
TP301
FOCUS SENS.
TP302
ZOOM SENS.
CN203
TP202
COLOUR P OUT
TP205
C OUT
TP204
Y OUT
1pin
IC401
1 2 CAMERA
C229
SYSTEM CLK
C236
PAL PLL
TP206
PAL F
TP203
4 FSC OUT
TP207
PAL PLL

Fig. 3-2-1 Adjustment element location for CAMERA board assembly

- CCD-

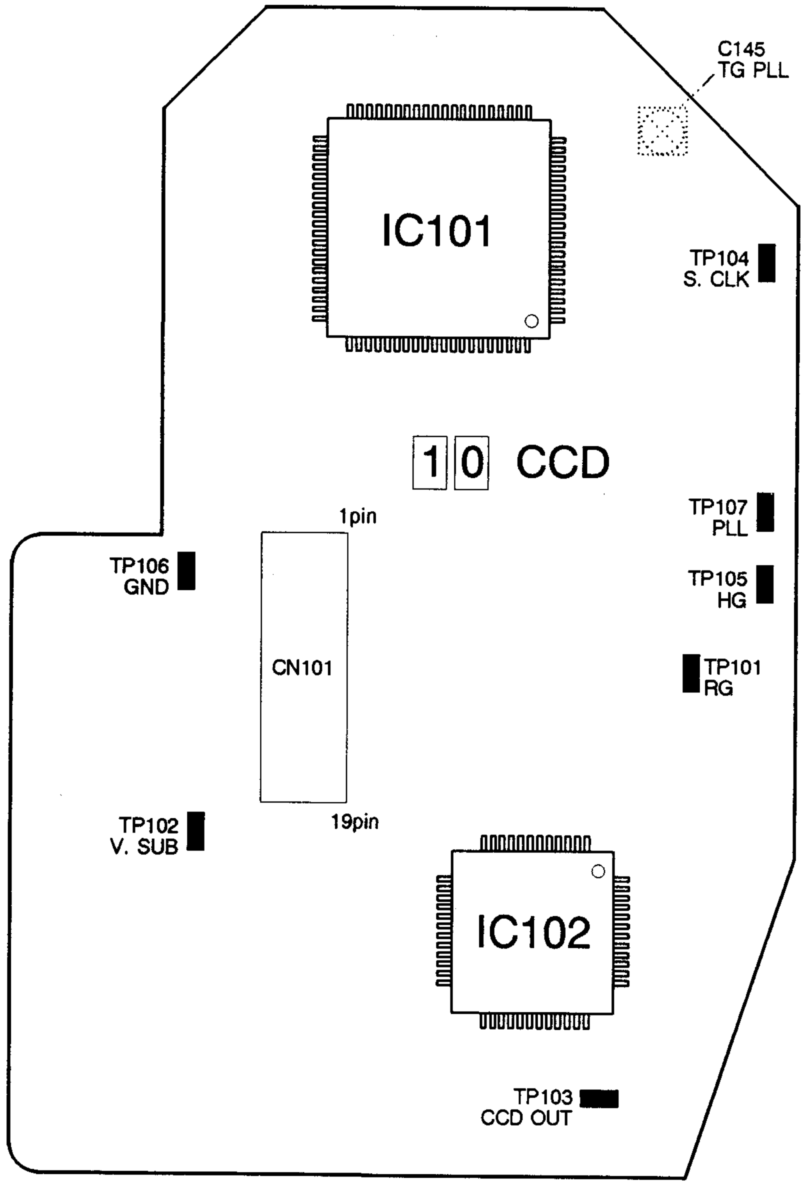

C145
TG PLL
IC101
TP104
S. CLK
1 0 CCD
1pin
TP107
PLL
TP106
GND
TP105
HG
CN101
TP101
RG
TP102
V. SUB
19pin
IC102
TP103
CCD OUT

Fig. 3-2-2 Adjustment element location for CCD board assembly

3.2 CAMERA SECTION ADJUSTMENT

3.2.1 PREPARATION

1. Precaution

The camera section of this model does not contain adjustment controls (VR) . General camera system adjustment are not required. However, if camera process board need replacement, please use original E^{2}PROM and swing detector on to new board. Then adjustment are not required. And if parts such as the following need replacement, special computerized adjustment are required. Please contact to JVC service for detaile information.

- OP block
- E^{2}PROM (IC303 of CAMERA board)
- Swing detector

2. Setup for camera section adjustment

1. Referring to 'sec. 3.1.1-5 Connection for adjustment' and connect the deck section, camera section and E. VF section with patch cords connection as below.
   1) For the connections, disconnect the patch cord from Y/C separator cable and then connect the flat wire between CN203 of the Camera board (CAMERA section) and CN3 of the Main board.
   2) Connect the E. VF connector to CN9 of the Main board.
2. For adjustment, set the camera to the following operation mode unless otherwise indicated.
   - Rehersal mode
   - Standard shutter speed (1/60)
   - Manual focusing
   - White balance is set to 3,100 K
3. For observing waveform by an oscilloscope at H. rate, connect CH-B of the oscilloscope with TP510 (VIDEO OUT) of MAIN board synchronizing with minus trigger, Connect CH–A to the specified test point for measurement.

3. Precaution for camera section adjustment

1. For illumination, use two or more lighting apparatuses to illumination the test chart uniformly.
2. Colour temperature of lighting must be 3,100 K or more and intensity of illumination must be 3,000 lux or more in the center of the chart.
3. Use a clean and undamaged test chart.
4. Prevent the test chart from any light other than the specified light source.

4. Required test equipment and adjustment tools (Exclusive use for camera section adjustment)

Note: *Unless otherwise specified, all test equipment and adjustment tools are same as deck section.*

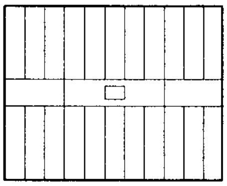
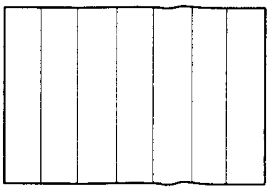
Gray scale pattern (GS–2A) Reflection type, 11 steps, γ = 2.2	Colour bar pattern (CC–2A) Reflection type, 7 colours
	

Table 3-2-1 Required adjustment tools

3.2.2 CAMERA CIRCUIT

Note: *Unless otherwise specified, all measurement points and adjustment parts are located on CAMERA board.*

1. REG 9V

Signal	• –
Mode	•EE
Equipment	•Digital voltmeter
Measurement point	•TP209 (REG 9 V)
Adjustment part	•R268 (REG 9 V)
Specification	•9.0 ± 0.1 V DC

1) Connect a digital voltmeter to TP209.
2) Adjust R268 for 9.0 V DC.

2. SW REG OSC

Signal	• –
Mode	•EE
Equipment	•Frequency counter
Measurement point	•TP208 (DD F)
Adjustment part	•R272 (OSC)
Specification	•190 ± 10 kHz

1) Connect the frequency counter to TP208.
2) Adjust R272 so that a frequency becomes 190 kHz.

3. SYSTEM CLOCK

Signal	• –
Mode	•EE
Equipment	•Frequency counter
Measurement point	•TP203 (4 FSC OUT)
Adjustment part	•C229 (SYSTEM CLOCK)
Specification	•17.734474 MHz

1) Connect the frequency counter to TP203.
2) Adjust C229 so that a frequency becomes 17.734474 MHz.

4. PAL PLL

Signal	• –
Mode	•EE
Equipment	•Digital voltmeter
Measurement point	•TP207 (PAL PLL)
Adjustment part	•C236 (PAL PLL)
Specification	•2.7 ± 0.2 V DC

1) Connect a digital voltmeter to TP207.
2) Adjust C236 for 2.7 V DC.

5. TG PLL

Signal	• –
Mode	•EE
Equipment	•Digital voltmeter
Measurement point	•TP107 (PLL) 〔CCD board〕
Adjustment part	•C145 (TG PLL) 〔CCD board〕
Specification	•2.7 ± 0.3 V DC

1) Connect a digital voltmeter to TP107.
2) Adjust C145 for 2.7 V DC.

6. Focus zone position

Subject	• –
Mode	•EE •Lens closed
Equipment	•E. VF
Measurement point	•E. VF screen
Adjustment part	•C324 (FOCUS ZONE) 〔MAIN board〕
Specification	•Center

1) Close the lens with the cap.
2) Display the 'Low Contrast' indication (▲◀▶👤) on the E. VF indicator.
3) Adjust C324 to position the Low Contrast indication in the center of the indicator.

3.2.3 ELECTRONIC VIEWFINDER (E. VF) ADJUSTMENT

Note: *Unless otherwise specified, all measurement points and adjustment parts are located on E. VF board.*

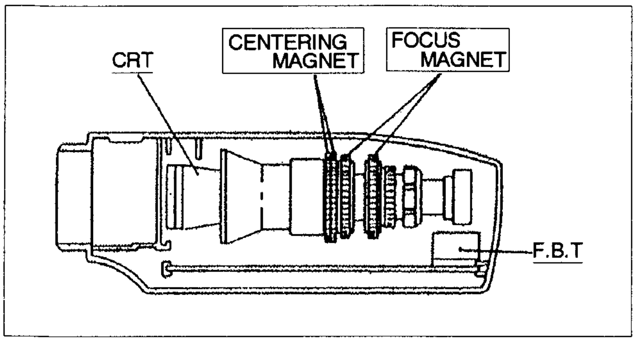


Fig. 3-2-3 E. VF

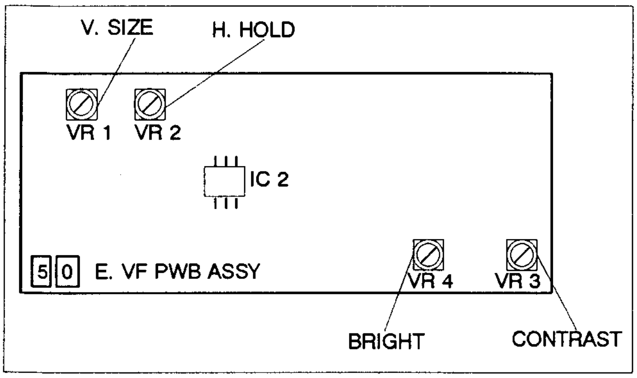


Fig. 3-2-4 E. VF board

1. Horizontal sync.

Subject	•Gray scale
Mode	•EE
Equipment	•E. VF
Measurement point	•E. VF screen
Adjustment part	•VR2 (H. HOLD)
Specification	•The midpoint of the two markings

1) Observing the viewfinder screen, turn VR2 fully clockwise to make the picture unstable.
2) Slowly return VR2 cunterclockwise to find a point where the picture becomes stable, and mark this position.
3) Turn VR2 fully counterclockwise to make the picture unstable in the same manner as 1) above.
4) Slowly return VR2 clockwise until the picture becomes stable, and mark this position of VR1.
5) Finally set VR2 to the midpoint between the two markings of 2) and 4).

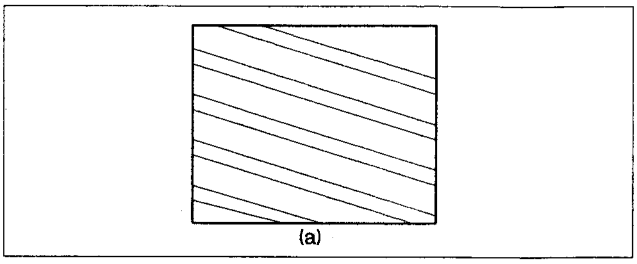


Fig. 3-2-5 Horizontal sync.1

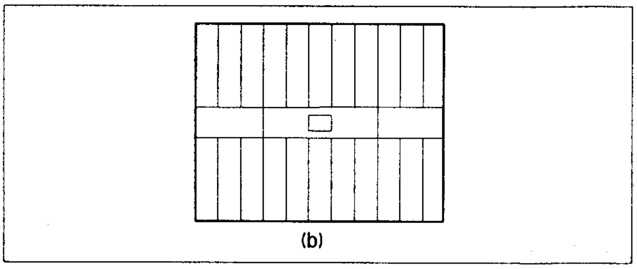


Fig. 3-2-6 Horizontal sync.2

2. Vertical scanning

Subject	•Gray scale
Mode	•EE
Equipment	•E. VF
Measurement point	•E.VF screen
Adjustment part	•VR1 (V. SIZE)
Specification	•Normal picture amplitude

1) Observing the viewfinder screen, adjust VR1 for normal picture amplitude.

3. Centering

Subject	•Gray scale
Mode	•EE
Equipment	•E. VF
Measurement point	•E.VF screen
Adjustment part	•Centering magnet 〔CRT assy〕
Specification	•The center of the E. VF screen

1) Shoot the gray scale to position it in the center of the TV monitor screen, and adjust the centering magnet to locate the gray scale in the center of the viewfinder screen.

4. Focus

Subject	•Gray scale
Mode	•EE
Equipment	•E. VF
Measurement point	•E. VF screen
Adjustment part	•Focus magnet 〔CRT assy〕
Specification	• The center area is clear and defined

1) While observing the viewfinder screen, adjust the focus magnet for the deflecting yoke so that the image in the central area of the gray scale screen is clear and defined.

5. Brightness

Subject	• –
Mode	•EE •Lens closed
Equipment	•E. VF
Measurement point	•E. VF screen
Adjustment part	•VR4 (BRIGHT)
Specification	• The CRT raster is just barely visible

1) Close the lens with the cap and adjust VR4 so that the raster of the CRT is just visible in the E. VF.

6. Contrast

Subject	•Gray scale
Mode	•EE
Equipment	•E. VF
Measurement point	•E. VF screen
Adjustment part	•VR3 (CONTRAST)
Specification	•Gradation is optimum

1) While observing the viewfinder screen, adjust VR3 so that the gray scale gradation is optimum.

SECTION 4
CHARTS AND DIAGRAMS

SCHEMATIC DIAGRAM NOTES

Safety precautions

The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufactures recommended parts.

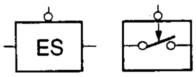
1. Schematic diagram values

Unless otherwise specified.

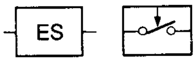
1) All resistance values are in ohms. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values in µH, (m: mH).
4) All diodes are 1SS133 or MA165, (refer to parts list).

2. Indications

AUX : Active only at high.
$\overline{\text{AUX}}$: Active only at low.

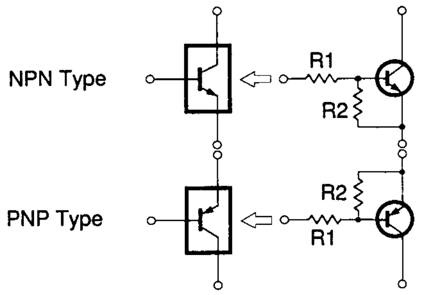


Active only at low for electronic switch.

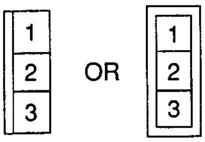


Active only at high for electronic switch.

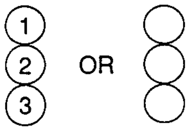
Digital transistor :
The digital transistor includes built in resistors.
It features small size and high reliability.


NPN Type
R1
R2
PNP Type
R2
R1

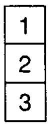
3. Interpreting Connector indications



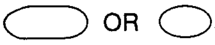
Removable connector



Direct connection on board



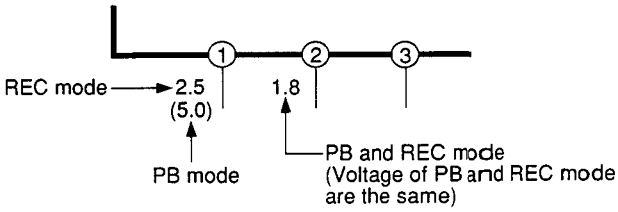
Non-removable Board connector



Connected pattern on board

4. Voltage measurement

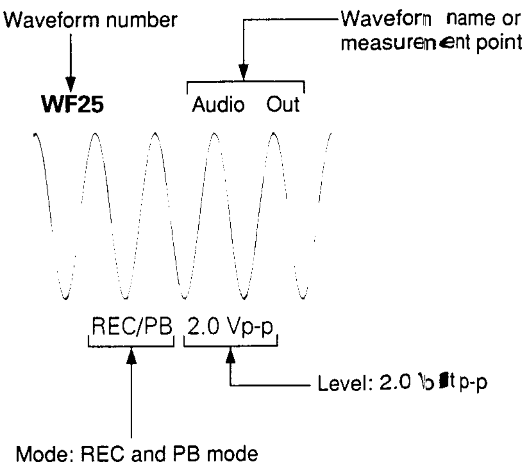
1) Voltage chart
   REC : Color bar signal in SP mode, normal VHS mode.
   PB : Alignment tape, color bar SP mode, normal VHS mode.
   — : Unmeasurable or unnecessary to measure.
2) Audio section
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode.
   PB : REC then playback it.
3) Movie Camera Section
   Measured as the grey scale pattern and color bar pattern which lighted up brightly is shot in the E-E mode.
4) Schematic diagram
   Voltage Indications for REC and PB mode on Schematic are as shown below.


1
2
3
REC mode
2.5
(5.0)
1.8
PB mode
PB and REC mode
(Voltage of PB and REC mode are the same)

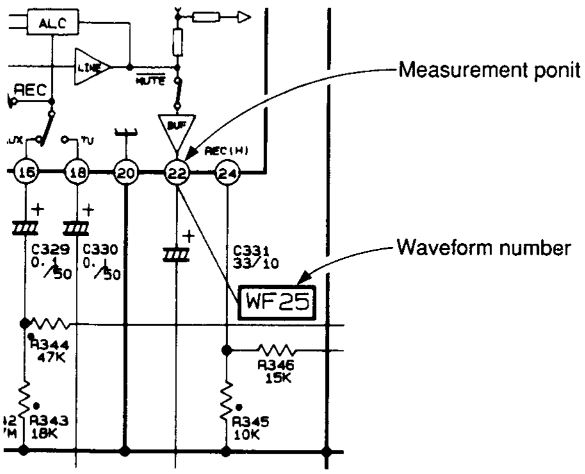
5. Waveform measurement

1) Waveform chart
   REC : Color bar signal in SP mode, normal VHS mode.
   PB : Alignment tape, color bar SP mode, normal VHS mode.
2) Audio Section
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode.
   PB : REC then playback it.
3) Movie Camera Section
   Measured as the grey scale or color bar pattern which lighted up brightly is shot in the E-E mode.

Example:


Waveform number
Waveform name or measurement point
WF25
Audio Out
REC/PB
2.0 Vp-p
Level: 2.0 Volt p-p
Mode: REC and PB mode

4) Schematic diagram
Waveform indications on schematic are as shown below.



ALC
LINE
MUTE
REC
BUF
REC(H)
16
18
20
22
24
C329 0.1/50
C330 0.1/50
C331 33/10
WF25
R344 47K
R346 15K
R343 18K
R345 10K
Measurement ponit
Waveform number

6. Signal path Symbols

The arrows indicate the signal path as follows.

⇨	Playback signal path
▭▶	Playback and recording signal path
➡	Recording signal path (including E-E signal path)
▬▷	Y signal path
⇨▷	Color (Chroma) signal path
▭▶▷	R or R-Y signal path
➡▷	B or B-Y signal path
⇨▶	Capstan servo path
▭▶▶	Drum servo path
➡▶	Reel servo path

CIRCUIT BOARD NOTES

1. Color indications

1) Foil side :
Foil side patterns are indicated at gray shading.
2) Component side :
Component side patterns are indicated at RED shading.

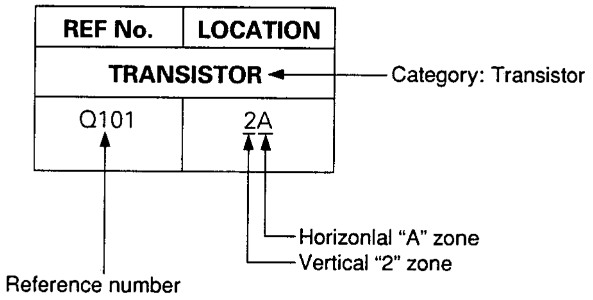
Notes:

Foil side (B side) ;
Parts on the foil side seen from foil face (pattern face) are indicated.

Component side (A side) ;
Parts on the component side seen from component face (parts face) are indicated.

2. Location of SMC indications

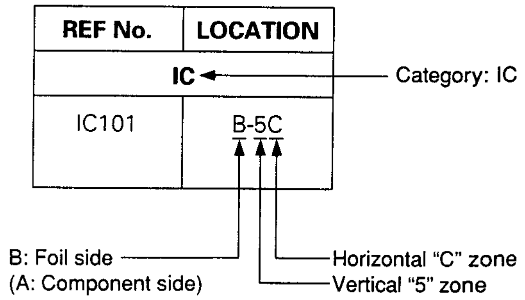
1) Single pattern :



REF No.	LOCATION
TRANSISTOR	
Q101	2A

Category: Transistor
Horizonlal "A" zone
Vertical "2" zone
Reference number

2) Double pattern :



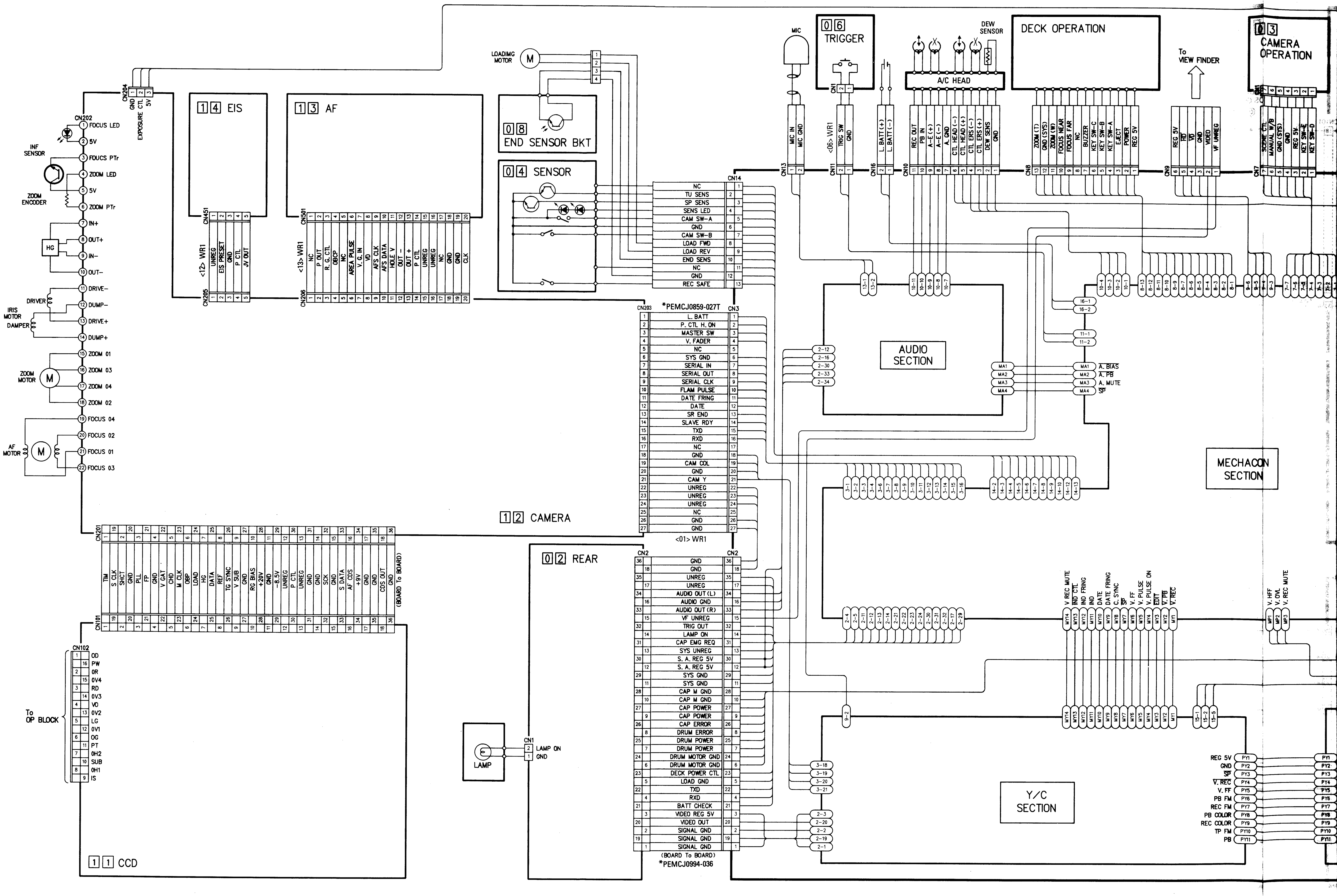
REF No.	LOCATION
IC	
IC101	B-5C

Category: IC
B: Foil side
(A: Component side)
Horizontal "C" zone
Vertical "5" zone

Notes:

1) **For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION No. 82054C (May 1991).**
2) **For repairing SMC (Surface Mounted Components), please refer to the VIDEO SERVICE GUIDE No. VTS81001.**

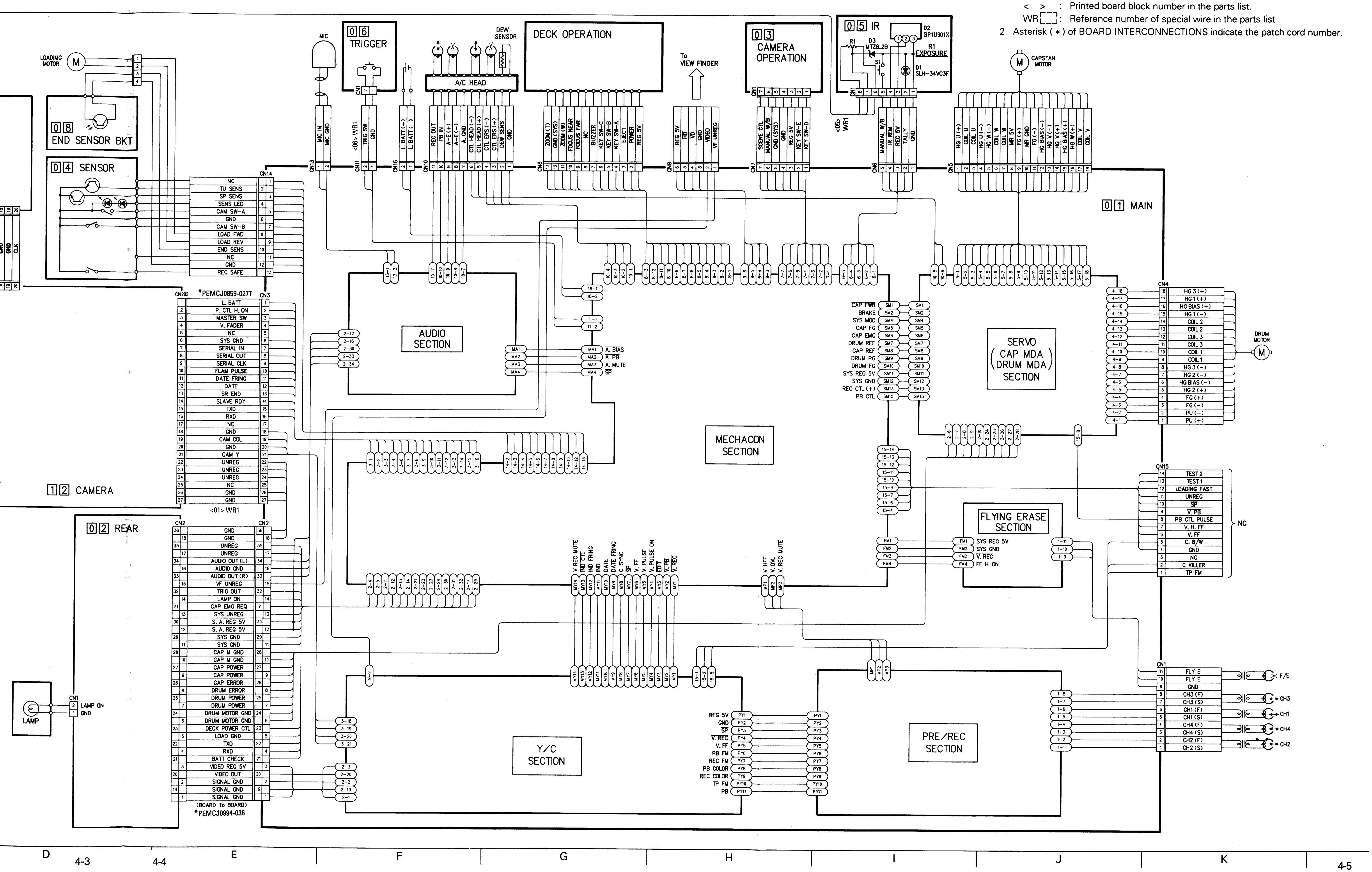
4.1 BOARD INTERCONNECTION



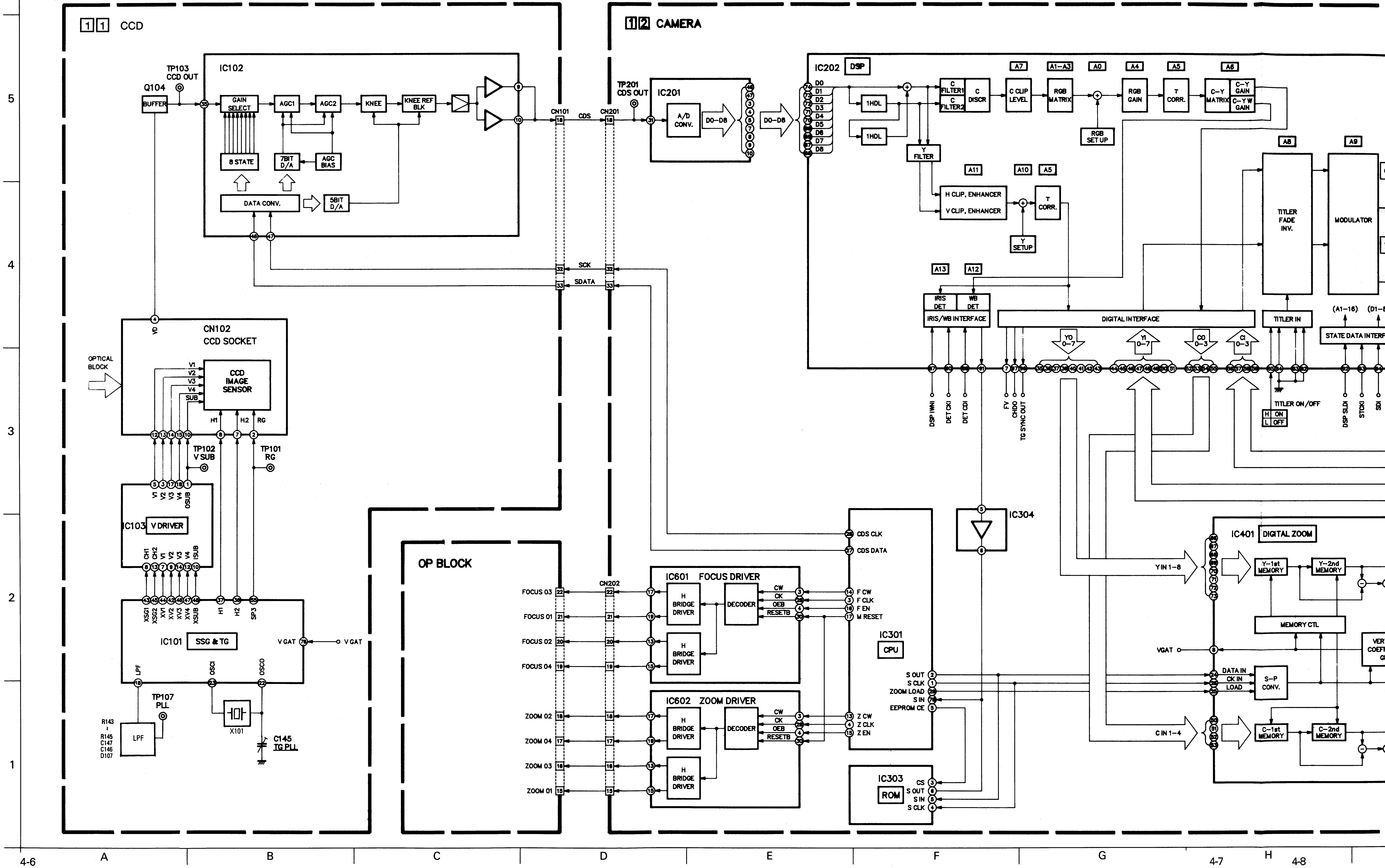
1 4 EIS
1 3 AF
0 8 END SENSOR BKT
0 4 SENSOR
0 6 TRIGGER
DECK OPERATION
0 3 CAMERA OPERATION
To VIEW FINDER
MIC
DEW SENSOR
A/C HEAD
LOADIMG MOTOR
CN204
GND
EXPOSURE CTL
5V
CN202
FOCUS LED
5V
FOUCS PTr
ZOOM LED
5V
ZOOM PTr
IN+
OUT+
IN−
OUT−
DRIVE−
DUMP−
DRIVE+
DUMP+
ZOOM 01
ZOOM 03
ZOOM 04
ZOOM 02
FOCUS 04
FOCUS 02
FOCUS 01
FOCUS 03
INF SENSOR
ZOOM ENCODER
HG
DRIVER
IRIS MOTOR
DAMPER
ZOOM MOTOR
AF MOTOR
M
CN451
<12> WR1
UNREG
EIS PRESET
GND
P. CTL
JV OUT
CN205
CN501
<13> WR1
NC
P. OUT
R. G. CTL
OBCP
NC
AREA PULSE
V. G. IN
VD
AFS CLK
AFS DATA
HOLE V
OUT −
OUT +
P. CTL
UNREG
UNREG
NC
GND
GND
CLK
CN206
CN14
NC
TU SENS
SP SENS
SENS LED
CAM SW−A
GND
CAM SW−B
LOAD FWD
LOAD REV
END SENS
NC
GND
REC SAFE
CN203
*PEMCJ0859-027T
CN3
L. BATT
P. CTL H. ON
MASTER SW
V. FADER
NC
SYS GND
SERIAL IN
SERIAL OUT
SERIAL CLK
FLAM PULSE
DATE FRING
DATE
SR END
SLAVE RDY
TXD
RXD
NC
GND
CAM COL
GND
CAM Y
UNREG
UNREG
UNREG
NC
GND
GND
<01> WR1
1 2 CAMERA
CN201
TIM
S CLK
SHCT
GND
PLL
FP
GND
V GAT
CHD
M CLK
OBP
LOAD
HG
DATA
REF
TG SYNC
V SUB
GND
RG BIAS
+20V
GND
−8.5V
P. CTL
UNREG
GND
GND
SCK
GND
S DATA
AF CDS
+9V
GND
GND
CDS OUT
GND
(BOARD To BOARD)
CN101
CN102
OD
PW
ØR
ØV4
RD
ØV3
VO
ØV2
LG
ØV1
OG
PT
ØH2
SUB
ØH1
IS
To OP BLOCK
1 1 CCD
0 2 REAR
LAMP
CN1
LAMP ON
GND
CN2
GND
GND
UNREG
UNREG
AUDIO OUT (L)
AUDIO GND
AUDIO OUT (R)
VF UNREG
TRIG OUT
LAMP ON
CAP EMG REQ
SYS UNREG
S. A. REG 5V
S. A. REG 5V
SYS GND
SYS GND
CAP M GND
CAP M GND
CAP POWER
CAP POWER
CAP ERROR
DRUM ERROR
DRUM POWER
DRUM POWER
DRUM MOTOR GND
DRUM MOTOR GND
DECK POWER CTL
LOAD GND
TXD
RXD
BATT CHECK
VIDEO REG 5V
VIDEO OUT
SIGNAL GND
SIGNAL GND
SIGNAL GND
(BOARD To BOARD)
*PEMCJ0994-036
CN13
MIC IN
MIC GND
CN11
<06> WR1
TRIG SW
GND
CN16
L. BATT (+)
L. BATT (−)
CN10
REC OUT
PB IN
A−E (+)
A−E (−)
A. GND
NC
CTL HEAD (−)
CTL HEAD (+)
CTL ERS (−)
CTL ERS (+)
DEW SENS
GND
CN8
ZOOM (T)
GND (SYS)
ZOOM (W)
FOCUS NEAR
FOCUS FAR
NC
BUZZER
KEY SW−C
KEY SW−B
KEY SW−A
EJECT
POWER
REG 5V
CN9
REG 5V
HD
VD
GND
VIDEO
VF UNREG
CN7
SCENE CTL
MANUAL W/B
GND (SYS)
GND
REG 5V
KEY SW−E
KEY SW−D
AUDIO SECTION
A. BIAS
A. PB
A. MUTE
SP
MA1
MA2
MA3
MA4
MECHACON SECTION
Y/C SECTION
V. REC MUTE
IND CTL
IND FRING
IND
DATE
DATE FRING
C. SYNC
SP
V. FF
V. PULSE
V. PULSE ON
EDIT
V. PB
V. REC
V. HFF
V. OVL
V. REC MUTE
REG 5V
GND
SP
V. REC
V. FF
PB FM
REC FM
PB COLOR
REC COLOR
TP FM
PB
PY1
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9
PY10
PY11

NOTES:

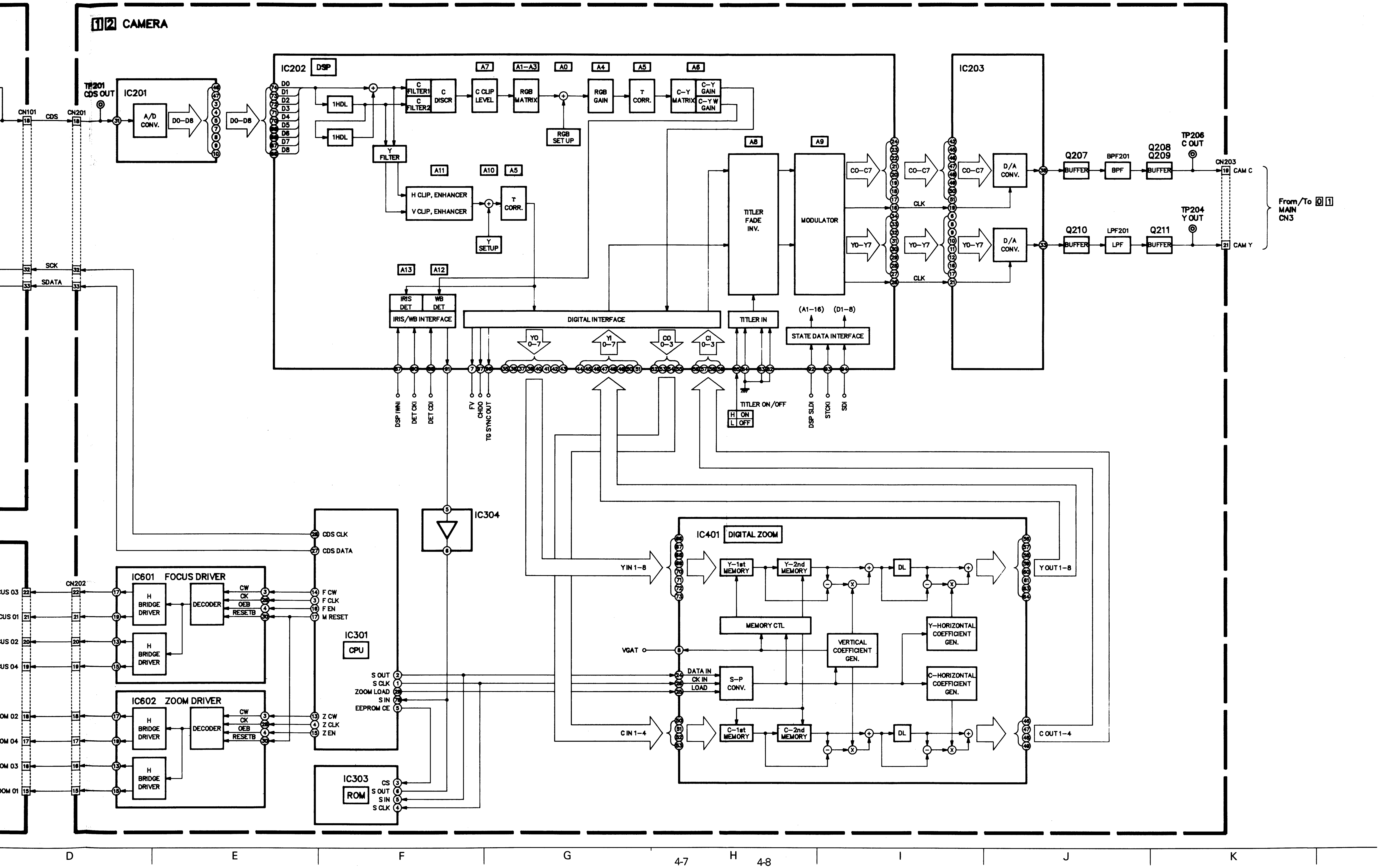
1. < > WR[ ] indications on BOARD INTERCONNECTIONS are as shown below.
   < > : Printed board block number in the parts list.
   WR[ ] : Reference number of special wire in the parts list
2. Asterisk (*) of BOARD INTERCONNECTIONS indicate the patch cord number.


LOADING MOTOR
M
08 END SENSOR BKT
04 SENSOR
12 CAMERA
02 REAR
LAMP
LAMP ON
GND
CN1
MIC
MIC IN
MIC GND
CN13
06 TRIGGER
TRIG SW
GND
CN11
<06> WR1
L. BATT (+)
L. BATT (−)
CN16
A/C HEAD
DEW SENSOR
REC OUT
PB IN
A-E (+)
A-E (−)
A. GND
CTL HEAD (−)
CTL HEAD (+)
CTL ERS (−)
CTL ERS (+)
DEW SENS
GND
CN10
DECK OPERATION
ZOOM (T)
ZOOM (SYS)
ZOOM (W)
FOCUS NEAR
FOCUS FAR
NC
BUZZER
KEY SW-C
KEY SW-B
KEY SW-A
EJECT
POWER
REG 5V
CN8
To VIEW FINDER
REG 5V
HD
VD
GND
VIDEO
VF UNREG
CN9
03 CAMERA OPERATION
SCENE CTL
MANUAL W/B
GND (SYS)
GND
REG 5V
KEY SW-E
KEY SW-D
CN7
<05> WR1
05 IR
R1
D3 MTZ8.2B
S1
D2 GP1U901X
R1 EXPOSURE
D1 SLH-34VC3F
MANUAL W/B
IR REM
REG 5V
TALLY
GND
CN6
CAPSTAN MOTOR
HG U (+)
COIL U
COIL U
HG W (−)
HG U (−)
COIL W
COIL W
MR 5V
FG (+)
MR GND
FG (−)
HG BIAS (−)
HG V (−)
HG W (+)
HG BIAS (+)
HG V (+)
COIL V
COIL V
CN5
01 MAIN
CN14
NC
TU SENS
SP SENS
SENS LED
CAM SW-A
GND
CAM SW-B
LOAD FWD
LOAD REV
END SENS
NC
GND
REC SAFE
CN203
*PEMCJ0859-027T
CN3
L. BATT
P. CTL H. ON
MASTER SW
V. FADER
NC
SYS GND
SERIAL IN
SERIAL OUT
SERIAL CLK
FLAM PULSE
DATE FRING
DATE
SR END
SLAVE RDY
TXD
RXD
NC
GND
CAM COL
GND
CAM Y
UNREG
UNREG
UNREG
NC
GND
GND
<01> WR1
CN2
GND
GND
UNREG
UNREG
AUDIO OUT (L)
AUDIO GND
AUDIO OUT (R)
VF UNREG
TRIG OUT
LAMP ON
CAP EMG REQ
SYS UNREG
S. A. REG 5V
S. A. REG 5V
SYS GND
SYS GND
CAP M GND
CAP M GND
CAP POWER
CAP POWER
CAP ERROR
DRUM ERROR
DRUM POWER
DRUM POWER
DRUM MOTOR GND
DRUM MOTOR GND
DECK POWER CTL
LOAD GND
TXD
RXD
BATT CHECK
VIDEO REG 5V
VIDEO OUT
SIGNAL GND
SIGNAL GND
SIGNAL GND
(BOARD To BOARD)
*PEMCJ0994-036
AUDIO SECTION
MA1
MA2
MA3
MA4
A. BIAS
A. PB
A. MUTE
SP
MECHACON SECTION
CAP FWD
BRAKE
SYS MOD
CAP FG
CAP EMG
DRUM REF
CAP REF
DRUM PG
DRUM FG
SYS REG 5V
SYS GND
REC CTL (+)
PB CTL
SERVO (CAP MDA DRUM MDA) SECTION
CN4
HG 3 (+)
HG 1 (+)
HG BIAS (+)
HG 1 (−)
COIL 2
COIL 2
COIL 3
COIL 3
COIL 1
COIL 1
HG 3 (−)
HG 2 (−)
HG BIAS (−)
HG 2 (+)
FG (+)
FG (−)
PU (−)
PU (+)
DRUM MOTOR
CN15
TEST 2
TEST 1
LOADING FAST
UNREG
SP
V. PB
PB CTL PULSE
V. H. FF
V. FF
C. B/W
GND
NC
C KILLER
TP FM
NC
FLYING ERASE SECTION
FM1
FM2
FM3
FM4
SYS REG 5V
SYS GND
V. REC
FE H. ON
V REC MUTE
IND CTL
IND FRING
IND
DATE FRING
DATE
C. SYNC
SP
V. FF
V. PULSE
V. PULSE ON
EDIT
V. PB
V. REC
V. HFF
V. OVL
V. REC MUTE
MP1
MP2
MP3
Y/C SECTION
REG 5V
GND
SP
V. REC
V. FF
PB FM
REC FM
PB COLOR
REC COLOR
TP FM
PB
PY1
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9
PY10
PY11
PRE/REC SECTION
CN1
FLY E
FLY E
GND
CH3 (F)
CH3 (S)
CH1 (F)
CH1 (S)
CH4 (F)
CH4 (S)
CH2 (F)
CH2 (S)
F/E
CH3
CH1
CH4
CH2
D
4-3
4-4
E
F
G
H
I
J
K

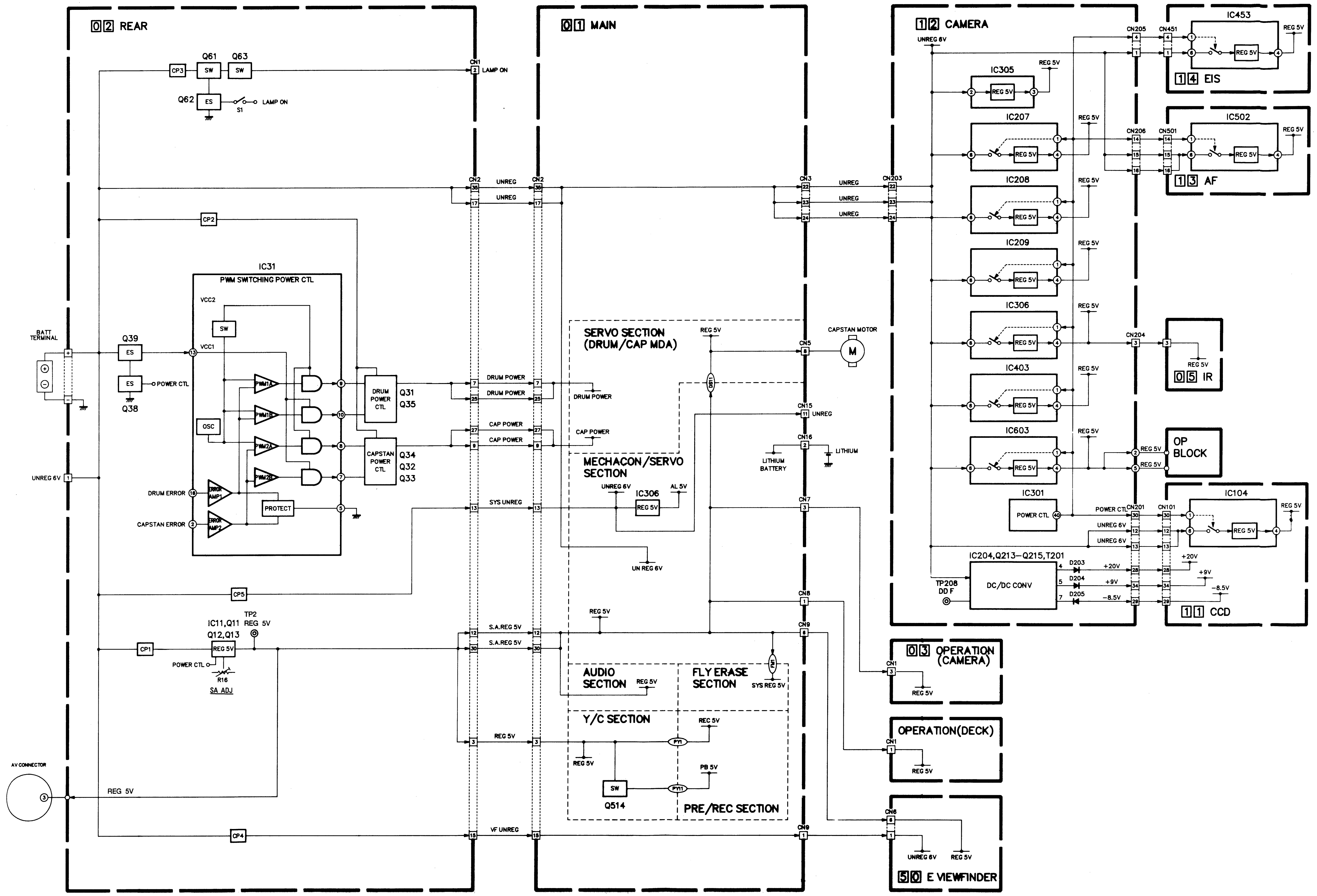
4.2 CAMERA BLOCK DIAGRAM



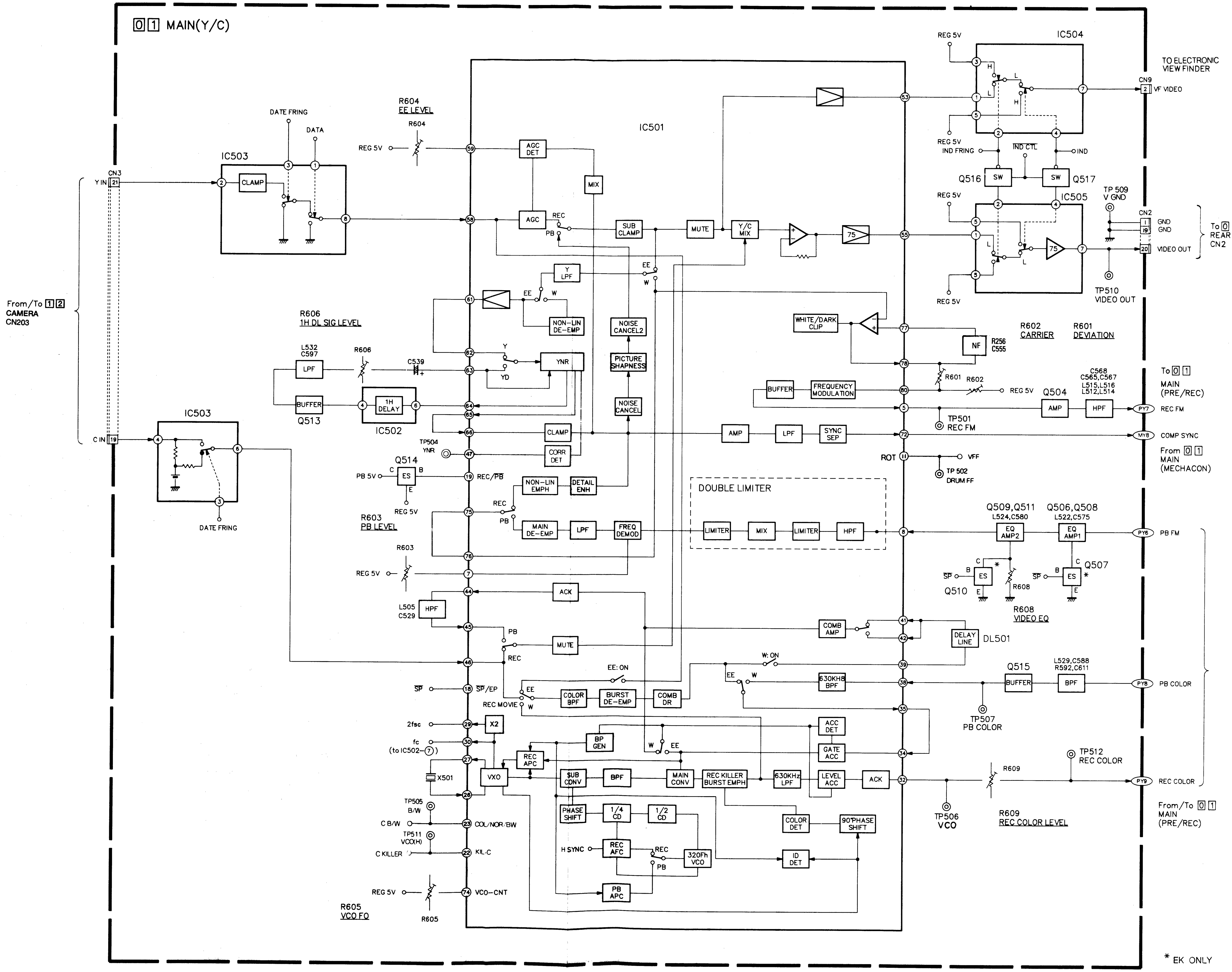
6
5
4
3
2
1
1 1 CCD
TP103 CCD OUT
Q104 BUFFER
IC102
GAIN SELECT
AGC1
AGC2
KNEE
KNEE REF BLK
8 STATE
7BIT D/A
AGC BIAS
DATA CONV.
5BIT D/A
CN102 CCD SOCKET
VD
OPTICAL BLOCK
CCD IMAGE SENSOR
V1 V2 V3 V4 SUB
H1 H2 RG
TP102 V SUB
TP101 RG
IC103 V DRIVER
V1 V2 V3 V4 OSUB
CH1 CH2 V1 V2 V3 V4 ISUB
IC101 SSG & TG
XSG1 XSG2 XV1 XV2 XV3 XV4 XSUB H1 H2 SP3
VGAT
LPF OSCI OSCO
TP107 PLL
R143 ~ R145 C147 C146 D107
LPF
X101
C145 TG PLL
OP BLOCK
FOCUS 03
FOCUS 01
FOCUS 02
FOCUS 04
ZOOM 02
ZOOM 04
ZOOM 03
ZOOM 01
CN101
CN201
CN202
CDS
SCK
SDATA
1 2 CAMERA
TP201 CDS OUT
IC201
A/D CONV.
D0–D8
IC202 DSP
D0 D1 D2 D3 D4 D5 D6 D7 D8
1HDL
1HDL
Y FILTER
C FILTER1
C FILTER2
C DISCR
A7 C CLIP LEVEL
A1–A3 RGB MATRIX
A0 RGB SET UP
A4 RGB GAIN
A5 T CORR.
A6 C–Y MATRIX
C–Y GAIN
C–Y W GAIN
A11 H CLIP, ENHANCER
V CLIP, ENHANCER
A10 A5 T CORR.
Y SETUP
A8 TITLER FADE INV.
A9 MODULATOR
A13 A12
IRIS DET
WB DET
IRIS/WB INTERFACE
DIGITAL INTERFACE
TITLER IN
(A1–16) (D1–
STATE DATA INTERF
Y0 0–7
Y1 0–7
C0 0–3
C1 0–3
DSP IWN
DET CKI
DET CDI
FV
CHDO
TG SYNC OUT
TITLER ON/OFF
H ON
L OFF
DSP SLDI
STCKI
SDI
IC304
IC301 CPU
CDS CLK
CDS DATA
F CW
F CLK
F EN
M RESET
Z CW
Z CLK
Z EN
S OUT
S CLK
ZOOM LOAD
S IN
EEPROM CE
IC601 FOCUS DRIVER
H BRIDGE DRIVER
DECODER
CW CK OEB RESETB
IC602 ZOOM DRIVER
IC303 ROM
CS S OUT S IN S CLK
IC401 DIGITAL ZOOM
Y IN 1–8
C IN 1–4
Y–1st MEMORY
Y–2nd MEMORY
MEMORY CTL
C–1st MEMORY
C–2nd MEMORY
VGAT
DATA IN
CK IN
LOAD
S–P CONV.
VER COEFF
A
B
C
D
E
F
G
H


1 2 CAMERA
TP201 CDS OUT
IC201
A/D CONV.
D0–D8
CN101
CDS
CN201
IC202 DSP
D0 D1 D2 D3 D4 D5 D6 D7 D8
1HDL
1HDL
C FILTER1
C FILTER2
C DISCR
Y FILTER
A7 C CLIP LEVEL
A1–A3 RGB MATRIX
A0 RGB SET UP
A4 RGB GAIN
A5 T CORR.
A6 C–Y MATRIX
C–Y GAIN
C–Y W GAIN
A11 H CLIP, ENHANCER
V CLIP, ENHANCER
A10 A5 T CORR.
Y SETUP
A8 TITLER FADE INV.
A9 MODULATOR
C0–C7
Y0–Y7
CLK
A13 A12
IRIS DET
WB DET
IRIS/WB INTERFACE
DIGITAL INTERFACE
TITLER IN
(A1–16) (D1–8)
STATE DATA INTERFACE
Y0 0–7
YI 0–7
CO 0–3
CI 0–3
DSP IWNI
DET CKI
DET CDI
FV
CHDO
TG SYNC OUT
TITLER ON/OFF
H ON
L OFF
DSP SLDI
STCKI
SDI
IC203
D/A CONV.
D/A CONV.
Q207 BUFFER
BPF201 BPF
Q208 Q209 BUFFER
TP206 C OUT
Q210 BUFFER
LPF201 LPF
Q211 BUFFER
TP204 Y OUT
CN203
CAM C
CAM Y
From/To 0 1 MAIN CN3
SCK
SDATA
IC304
IC301 CPU
CDS CLK
CDS DATA
F CW
F CLK
F EN
M RESET
S OUT
S CLK
ZOOM LOAD
S IN
EEPROM CE
Z CW
Z CLK
Z EN
IC303 ROM
CS
S OUT
S IN
S CLK
IC601 FOCUS DRIVER
H BRIDGE DRIVER
DECODER
CW CK OEB RESETB
IC602 ZOOM DRIVER
CN202
US 03
CUS 01
US 02
CUS 04
OM 02
OM 04
OM 03
OOM 01
IC401 DIGITAL ZOOM
Y IN 1–8
Y–1st MEMORY
Y–2nd MEMORY
DL
MEMORY CTL
VERTICAL COEFFICIENT GEN.
Y–HORIZONTAL COEFFICIENT GEN.
C–HORIZONTAL COEFFICIENT GEN.
VGAT
DATA IN
CK IN
LOAD
S–P CONV.
C IN 1–4
C–1st MEMORY
C–2nd MEMORY
Y OUT 1–8
C OUT 1–4
D
E
F
G
H
I
J
K

4.3 POWER SYSTEM BLOCK DIAGRAM

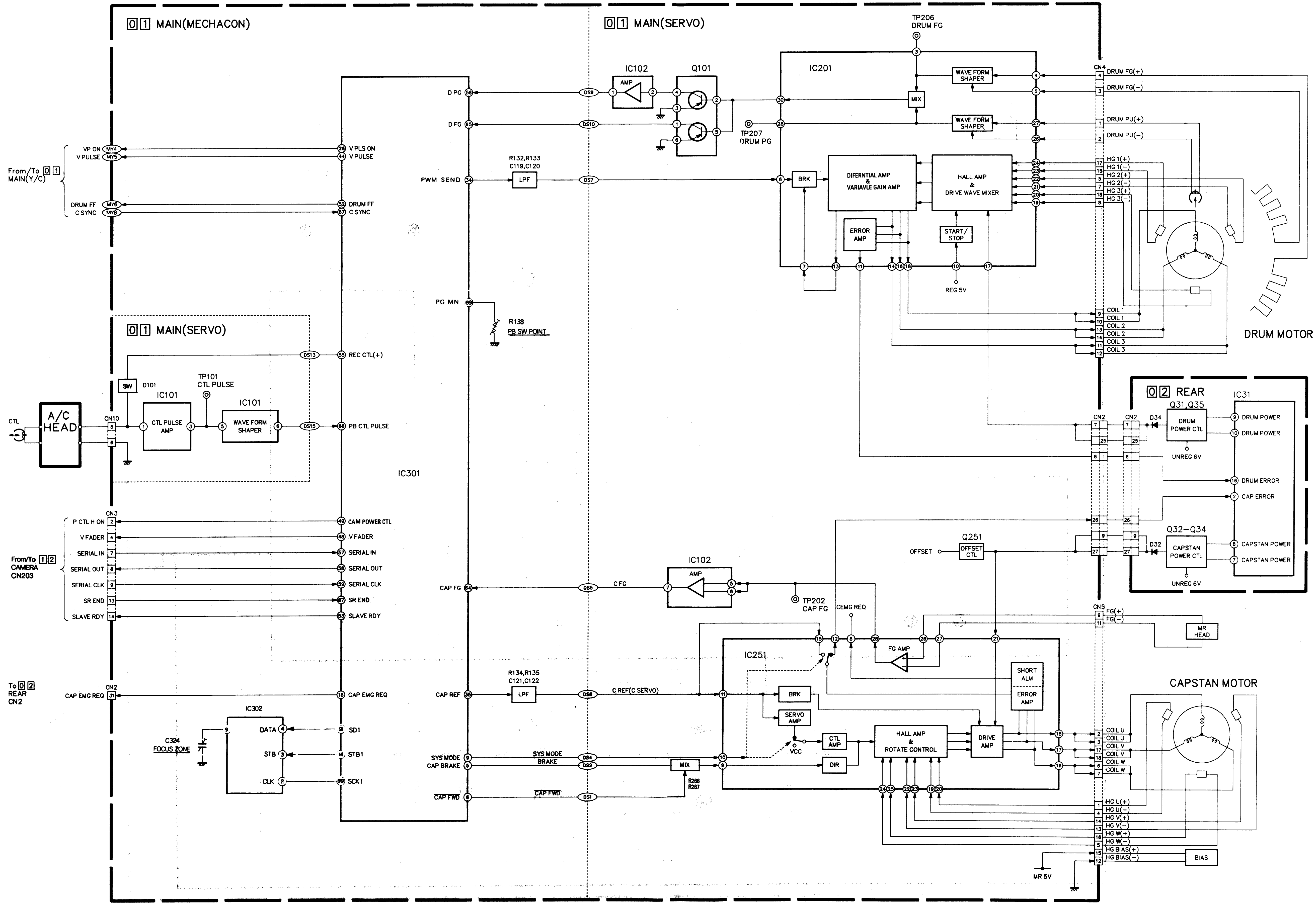

02 REAR
Q61
Q63
CP3
SW
SW
Q62
ES
S1
LAMP ON
CN1
LAMP ON
CN2
UNREG
UNREG
CP2
IC31
PWM SWITCHING POWER CTL
VCC2
SW
VCC1
OSC
PWM1A
PWM1B
PWM2A
PWM2B
ERROR AMP1
ERROR AMP2
PROTECT
DRUM POWER CTL
CAPSTAN POWER CTL
Q31
Q35
Q34
Q32
Q33
DRUM POWER
DRUM POWER
CAP POWER
CAP POWER
SYS UNREG
BATT TERMINAL
Q39
ES
ES
Q38
POWER CTL
UNREG 6V
DRUM ERROR
CAPSTAN ERROR
CP5
TP2
IC11,Q11
Q12,Q13
REG 5V
CP1
REG 5V
POWER CTL
R16
SA ADJ
S.A.REG 5V
S.A.REG 5V
REG 5V
AV CONNECTOR
REG 5V
CP4
VF UNREG
01 MAIN
SERVO SECTION (DRUM/CAP MDA)
REG 5V
DRUM POWER
CAP POWER
MECHACON/SERVO SECTION
UNREG 6V
IC306
REG 5V
AL 5V
UN REG 6V
REG 5V
AUDIO SECTION
REG 5V
FLY ERASE SECTION
SYS REG 5V
Y/C SECTION
REG 5V
REC 5V
PB 5V
SW
Q514
PRE/REC SECTION
CN3
CN5
CAPSTAN MOTOR
M
CN15
UNREG
CN16
LITHIUM
LITHIUM BATTERY
CN7
CN8
CN9
CN6
UNREG
UNREG
UNREG
12 CAMERA
UNREG 6V
CN203
IC305
REG 5V
REG 5V
IC207
IC208
IC209
IC306
IC403
IC603
IC301
POWER CTL
REG 5V
CN205
CN451
IC453
REG 5V
14 EIS
CN206
CN501
IC502
REG 5V
13 AF
CN204
REG 5V
05 IR
REG 5V
REG 5V
OP BLOCK
POWER CTL
CN201
CN101
IC104
REG 5V
UNREG 6V
UNREG 6V
IC204,Q213−Q215,T201
DC/DC CONV
TP208
DD F
D203
D204
D205
+20V
+9V
−8.5V
+20V
+9V
−8.5V
11 CCD
03 OPERATION (CAMERA)
CN1
REG 5V
OPERATION(DECK)
CN1
REG 5V
CN6
UNREG 6V
REG 5V
50 E VIEWFINDER

4.4 Y/C BLOCK DIAGRAM


01 MAIN(Y/C)
IC501
IC502
IC503
IC504
IC505
From/To 12 CAMERA CN203
CN3
Y IN 21
C IN 19
DATE FRING
DATA
CLAMP
R604 EE LEVEL
R604
REG 5V
AGC DET
AGC
MIX
REC
PB
SUB CLAMP
MUTE
Y/C MIX
75
Y LPF
EE
W
NON-LIN DE-EMP
NOISE CANCEL2
PICTURE SHAPNESS
NOISE CANCEL
YNR
YD
R606 1H DL SIG LEVEL
L532 C597
LPF
R606
C539
BUFFER
Q513
1H DELAY
CLAMP
TP504 YNR
CORR DET
Q514
ES
PB 5V
REG 5V
REC/PB
NON-LIN EMPH
DETAIL ENH
MAIN DE-EMP
FREQ DEMOD
R603 PB LEVEL
R603
ACK
L505 C529
HPF
MUTE
SP
SP/EP
COLOR BPF
BURST DE-EMP
COMB DR
REC MOVIE
EE: ON
2fsc
X2
fc (to IC502-7)
X501
VXO
REC APC
BP GEN
SUB CONV
BPF
MAIN CONV
REC KILLER BURST EMPH
630KHz LPF
LEVEL ACC
ACK
PHASE SHIFT
1/4 CD
1/2 CD
REC AFC
320Fh VCO
COLOR DET
90°PHASE SHIFT
ID DET
PB APC
H SYNC
TP505 B/W
C B/W
COL/NOR/BW
TP511 VCO(H)
C KILLER
KIL-C
VCO-CNT
R605 VCO FO
R605
WHITE/DARK CLIP
NF
R256 C555
R602 CARRIER
R601 DEVIATION
R601
R602
BUFFER
FREQUENCY MODULATION
Q504
AMP
HPF
C568 C565,C567 L515,L516 L512,L514
TP501 REC FM
AMP
LPF
SYNC SEP
ROT
VFF
TP502 DRUM FF
DOUBLE LIMITER
LIMITER
MIX
LIMITER
HPF
Q509,Q511 L524,C580 EQ AMP2
Q506,Q508 L522,C575 EQ AMP1
Q510
Q507
R608
R608 VIDEO EQ
COMB AMP
DELAY LINE
DL501
W: ON
630KHz BPF
Q515
BUFFER
L529,C588 R592,C611
BPF
TP507 PB COLOR
ACC DET
GATE ACC
TP512 REC COLOR
R609
TP506 VCO
R609 REC COLOR LEVEL
Q516 SW
Q517 SW
IND FRING
IND CTL
IND
TP509 V GND
TP510 VIDEO OUT
TO ELECTRONIC VIEW FINDER
CN9
VF VIDEO
CN2
GND
VIDEO OUT
To 02 REAR CN2
To 01 MAIN (PRE/REC)
REC FM
COMP SYNC
From 01 MAIN (MECHACON)
PB FM
PB COLOR
REC COLOR
From/To 01 MAIN (PRE/REC)
PY7
MY8
PY6
PY8
PY9

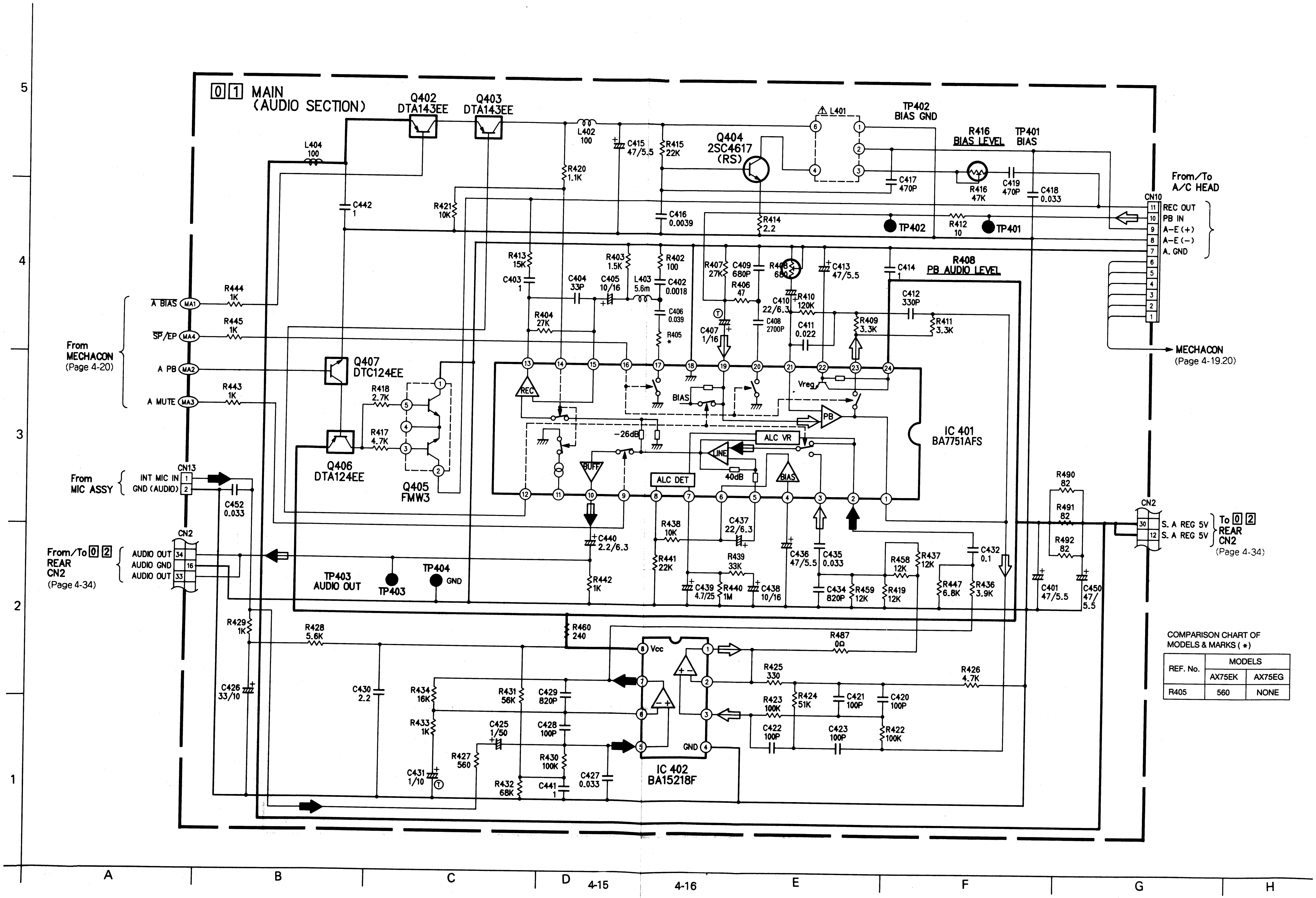
* EK ONLY

4.5 MECHACON/SERVO BLOCK DIAGRAM



01 MAIN(MECHACON)
01 MAIN(SERVO)
From/To 01 MAIN(Y/C)
VP ON
V PULSE
DRUM FF
C SYNC
MY4
MY5
MY6
MY8
V PLS ON
V PULSE
DRUM FF
C SYNC
D PG
D FG
PWM SEND
PG MN
R138
PB SW POINT
R132,R133
C119,C120
LPF
DS9
DS10
DS7
DS13
DS15
IC102
AMP
Q101
TP207
DRUM PG
TP206
DRUM FG
IC201
WAVE FORM SHAPER
MIX
BRK
DIFERNTIAL AMP & VARIAVLE GAIN AMP
HALL AMP & DRIVE WAVE MIXER
ERROR AMP
START/STOP
REG 5V
CN4
DRUM FG(+)
DRUM FG(−)
DRUM PU(+)
DRUM PU(−)
HG 1(+)
HG 1(−)
HG 2(+)
HG 2(−)
HG 3(+)
HG 3(−)
COIL 1
COIL 2
COIL 3
DRUM MOTOR
01 MAIN(SERVO)
REC CTL(+)
SW
D101
TP101
CTL PULSE
IC101
CTL PULSE AMP
WAVE FORM SHAPER
PB CTL PULSE
CTL
A/C HEAD
CN10
IC301
02 REAR
IC31
Q31,Q35
CN2
D34
DRUM POWER CTL
DRUM POWER
UNREG 6V
DRUM ERROR
CAP ERROR
Q32−Q34
D32
CAPSTAN POWER CTL
CAPSTAN POWER
From/To 12 CAMERA CN203
CN3
P CTL H ON
V FADER
SERIAL IN
SERIAL OUT
SERIAL CLK
SR END
SLAVE RDY
CAM POWER CTL
CAP FG
DS5
C FG
TP202
CAP FG
OFFSET
Q251
OFFSET CTL
CEMG REQ
CN5
FG(+)
FG(−)
MR HEAD
To 02 REAR CN2
CAP EMG REQ
IC251
FG AMP
SHORT ALM
ERROR AMP
CAPSTAN MOTOR
CAP REF
R134,R135
C121,C122
DS8
C REF(C SERVO)
SERVO AMP
CTL AMP
VCC
DIR
HALL AMP & ROTATE CONTROL
DRIVE AMP
COIL U
COIL V
COIL W
IC302
DATA
STB
CLK
SD1
STB1
SCK1
C324
FOCUS ZONE
SYS MODE
CAP BRAKE
BRAKE
DS4
DS2
MIX
R268
R267
CAP FWD
DS1
HG U(+)
HG U(−)
HG V(+)
HG V(−)
HG W(+)
HG W(−)
HG BIAS(+)
HG BIAS(−)
BIAS
MR 5V

4.6 AUDIO SCHEMATIC DIAGRAM

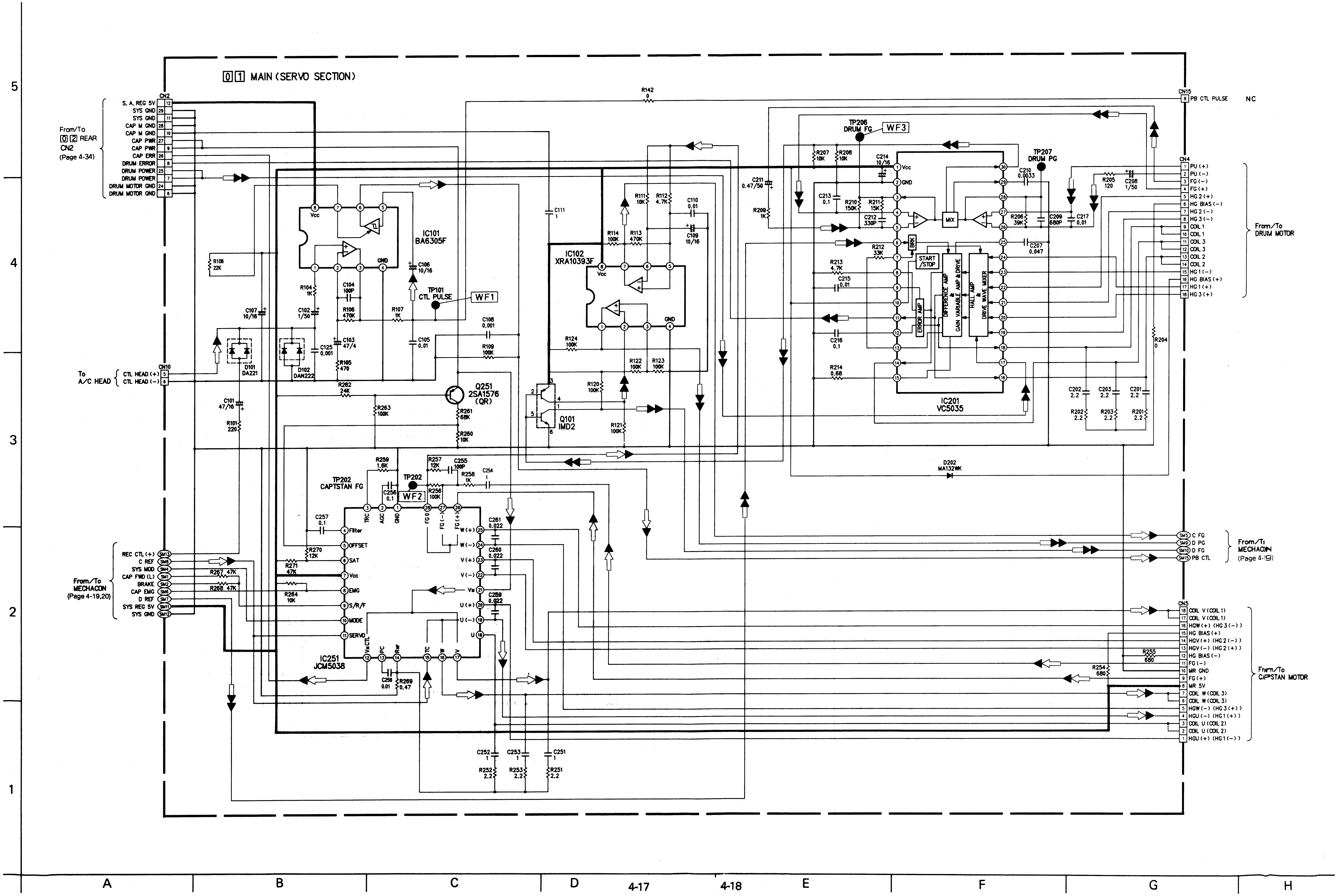


0 1 MAIN
(AUDIO SECTION)
Q402 DTA143EE
Q403 DTA143EE
L404 100
C442 1
R421 10K
L402 100
R420 1.1K
C415 47/5.5
R415 22K
Q404 2SC4617 (RS)
L401
TP402 BIAS GND
R416 BIAS LEVEL
TP401 BIAS
C417 470P
R416 47K
C419 470P
C418 0.033
From/To A/C HEAD
CN10
REC OUT
PB IN
A-E (+)
A-E (-)
A. GND
C416 0.0039
R414 2.2
TP402
R412 10
TP401
R413 15K
C403 1
R403 1.5K
R402 100
R407 27K
C409 680P
R408 680
C413 47/5.5
C414 1
R408 PB AUDIO LEVEL
C404 33P
C405 10/16
L403 5.6m
C402 0.0018
R406 47
C410 22/6.3
R410 120K
C412 330P
R404 27K
C406 0.039
R405 *
C407 1/16
C408 2700P
C411 0.022
R409 3.3K
R411 3.3K
MECHACON (Page 4-19,20)
A BIAS MA1
R444 1K
SP/EP MA4
R445 1K
From MECHACON (Page 4-20)
A PB MA2
A MUTE MA3
R443 1K
Q407 DTC124EE
R418 2.7K
R417 4.7K
Q406 DTA124EE
Q405 FMW3
REC
BIAS
Vreg
PB
-26dB
ALC VR
LINE
BUFF
40dB
ALC DET
IC 401 BA7751AFS
From MIC ASSY
CN13
INT MIC IN
GND (AUDIO)
C452 0.033
C440 2.2/6.3
R438 10K
C437 22/6.3
C436 47/5.5
C435 0.033
C432 0.1
R490 82
R491 82
R492 82
CN2
S. A REG 5V
S. A REG 5V
To 0 2 REAR CN2 (Page 4-34)
From/To 0 2 REAR CN2 (Page 4-34)
AUDIO OUT
AUDIO GND
AUDIO OUT
TP403 AUDIO OUT
TP403
TP404 GND
R441 22K
R442 1K
R439 33K
C439 4.7/25
R440 1M
C438 10/16
C434 820P
R459 12K
R419 12K
R458 12K
R437 12K
R447 6.8K
R436 3.9K
C401 47/5.5
C450 47/5.5
R429 1K
R428 5.6K
R460 240
R487 0Ω
Vcc
R425 330
R426 4.7K
C426 33/10
C430 2.2
R434 16K
R431 56K
C429 820P
R423 100K
R424 51K
C421 100P
C420 100P
R433 1K
C425 1/50
C428 100P
C422 100P
C423 100P
R422 100K
R427 560
R430 100K
GND
C431 1/10
R432 68K
C441 1
C427 0.033
IC 402 BA15218F
A
B
C
D
E
F
G
H
1
2
3
4
5

COMPARISON CHART OF MODELS & MARKS (*)

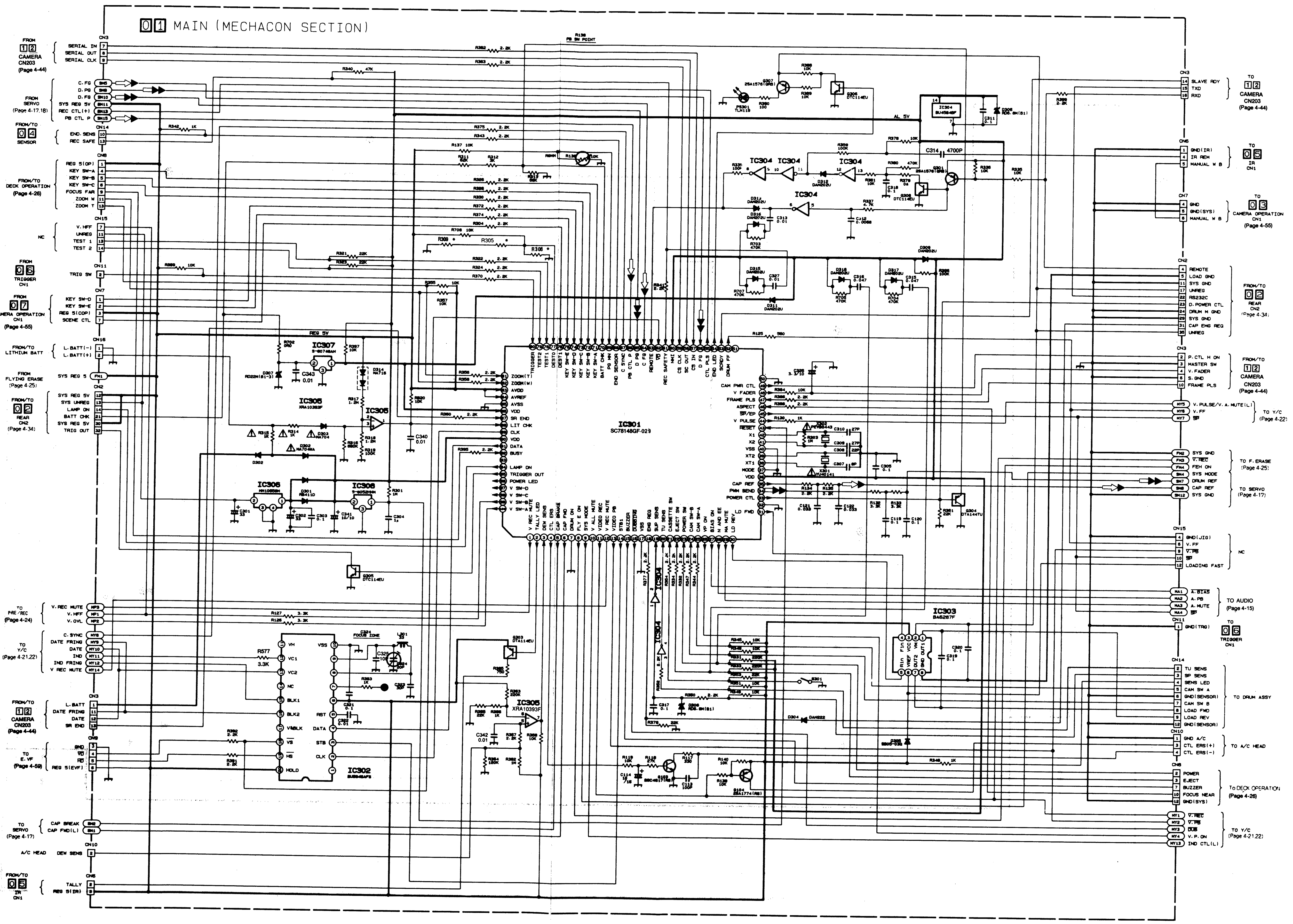
REF. No.	MODELS	
	AX75EK	AX75EG
R405	560	NONE

4.7 SERVO SCHEMATIC DIAGRAM



01 MAIN (SERVO SECTION)
From/To 02 REAR CN2 (Page 4-34)
CN2
S. A. REG 5V 12
SYS GND 29
SYS GND 11
CAP M GND 28
CAP M GND 10
CAP PWR 27
CAP PWR 9
CAP ERR 26
DRUM ERROR 8
DRUM POWER 25
DRUM POWER 7
DRUM MOTOR GND 24
DRUM MOTOR GND 6
To A/C HEAD
CN10
CTL HEAD (+) 5
CTL HEAD (−) 6
From/To MECHACON (Page 4-19,20)
REC CTL (+) SM13
C REF SM8
SYS MOD SM4
CAP FWD (L) SM1
BRAKE SM2
CAP EMG SM6
D REF SM7
SYS REG 5V SM11
SYS GND SM12
IC101 BA6305F
IC102 XRA10393F
IC201 VC5035
IC251 JCM5038
Q251 2SA1576 (QR)
Q101 IMD2
D101 DA221
D102 DAN222
D202 MA132WK
TP101 CTL PULSE
WF1
TP202 CAPTSTAN FG
WF2
TP206 DRUM FG
WF3
TP207 DRUM PG
R142 0
R108 22K
R104 1K
C104 100P
R106 470K
R107 1K
C106 10/16
C107 10/16
C102 1/50
C103 47/4
C125 0.001
R105 470
C105 0.01
C108 0.001
R109 100K
R262 24K
R263 100K
R261 68K
R260 10K
C101 47/16
R101 220
C111 1
R111 10K
R112 4.7K
C110 0.01
C109 10/16
R114 100K
R113 470K
R124 100K
R122 100K
R123 100K
R120 100K
R121 100K
R259 1.6K
C256 0.1
R257 12K
C255 100P
R256 100K
R258 1K
C254 1
C257 0.1
R270 12K
R271 47K
R264 10K
R267 47K
R268 47K
C261 0.022
C260 0.022
C259 0.022
C258 0.01
R269 0.47
C252 1
C253 1
C251 1
R252 2.2
R253 2.2
R251 2.2
TRC
AGC
GND
FG 0
FG (−)
FG (+)
Filter
OFFSET
SAT
Vcc
EMG
S/R/F
MODE
SERVO
VM CTL
PC
Rnf
TC
W
V
W (+)
W (−)
V (+)
V (−)
VM
U (+)
U (−)
U
C211 0.47/50
R207 10K
R208 10K
C214 10/16
C213 0.1
R210 150K
R211 15K
C212 330P
R209 1K
R212 33K
R213 4.7K
C215 0.01
C216 0.1
R214 0.68
C210 0.0033
R205 120
C208 1/50
R206 39K
C209 680P
C217 0.01
C207 0.047
R204 0
C202 2.2
C203 2.2
C201 2.2
R202 2.2
R203 2.2
R201 2.2
MIX
BRK
START /STOP
ERROR AMP
DIFFERENCE AMP
GAIN VARIABLE AMP & DRIVE
HALL AMP & DRIVE WAVE MIXER
CN15
8 PB CTL PULSE
NC
CN4
1 PU (+)
2 PU (−)
3 FG (−)
4 FG (+)
5 HG 2 (+)
6 HG BIAS (−)
7 HG 2 (−)
8 HG 3 (−)
9 COIL 1
10 COIL 1
11 COIL 3
12 COIL 3
13 COIL 2
14 COIL 2
15 HG 1 (−)
16 HG BIAS (+)
17 HG 1 (+)
18 HG 3 (+)
From/To DRUM MOTOR
SM5 C FG
SM9 D PG
SM10 D FG
SM15 PB CTL
From/To MECHACON (Page 4-19)
CN5
18 COIL V (COIL 1)
17 COIL V (COIL 1)
16 HGW (+) (HG 3 (−))
15 HG BIAS (+)
14 HGV (+) (HG 2 (−))
13 HGV (−) (HG 2 (+))
12 HG BIAS (−)
11 FG (−)
10 MR GND
9 FG (+)
8 MR 5V
7 COIL W (COIL 3)
6 COIL W (COIL 3)
5 HGW (−) (HG 3 (+))
4 HGU (−) (HG 1 (+))
3 COIL U (COIL 2)
2 COIL U (COIL 2)
1 HGU (+) (HG 1 (−))
R255 680
R254 680
From/To CAPSTAN MOTOR
5
4
3
2
1
A
B
C
D
E
F
G
H

4.8 MECHACON SCHEMATIC DIAGRAM


01 MAIN (MECHACON SECTION)
FROM 12 CAMERA CN203 (Page 4-44)
SERIAL IN
SERIAL OUT
SERIAL CLK
FROM SERVO (Page 4-17,18)
C.FG
D.PG
D.FG
SYS REG 5V
REC CTL(+)
PB CTL P
FROM/TO 04 SENSOR
END SENS
REC SAFE
FROM/TO DECK OPERATION (Page 4-26)
FROM 06 TRIGGER CN1
FROM 07 CAMERA OPERATION CN1 (Page 4-55)
FROM/TO LITHIUM BATT
FROM FLYING ERASE (Page 4-25)
FROM/TO 02 REAR CN2 (Page 4-34)
TO PRE/REC (Page 4-24)
TO Y/C (Page 4-21,22)
FROM/TO 12 CAMERA CN203 (Page 4-44)
TO E.VF (Page 4-59)
TO SERVO (Page 4-17)
A/C HEAD
FROM/TO 05 IR CN1
IC301 SC78148GF-029
IC302 BU2848AFS
IC303 BA6267F
IC304
IC305 XRA10393F
IC306
IC307
IC308
TO 12 CAMERA CN203 (Page 4-44)
TO 05 IR CN1
TO 03 CAMERA OPERATION CN1 (Page 4-55)
FROM/TO 02 REAR CN2 (Page 4-34)
FROM/TO 12 CAMERA CN203 (Page 4-44)
TO Y/C (Page 4-22)
TO F.ERASE (Page 4-25)
TO SERVO (Page 4-17)
NC
TO AUDIO (Page 4-15)
TO 06 TRIGGER CN1
TO DRUM ASSY
TO A/C HEAD
TO DECK OPERATION (Page 4-26)
TO Y/C (Page 4-21,22)
A B C D E F G H
1 2 3 4 5

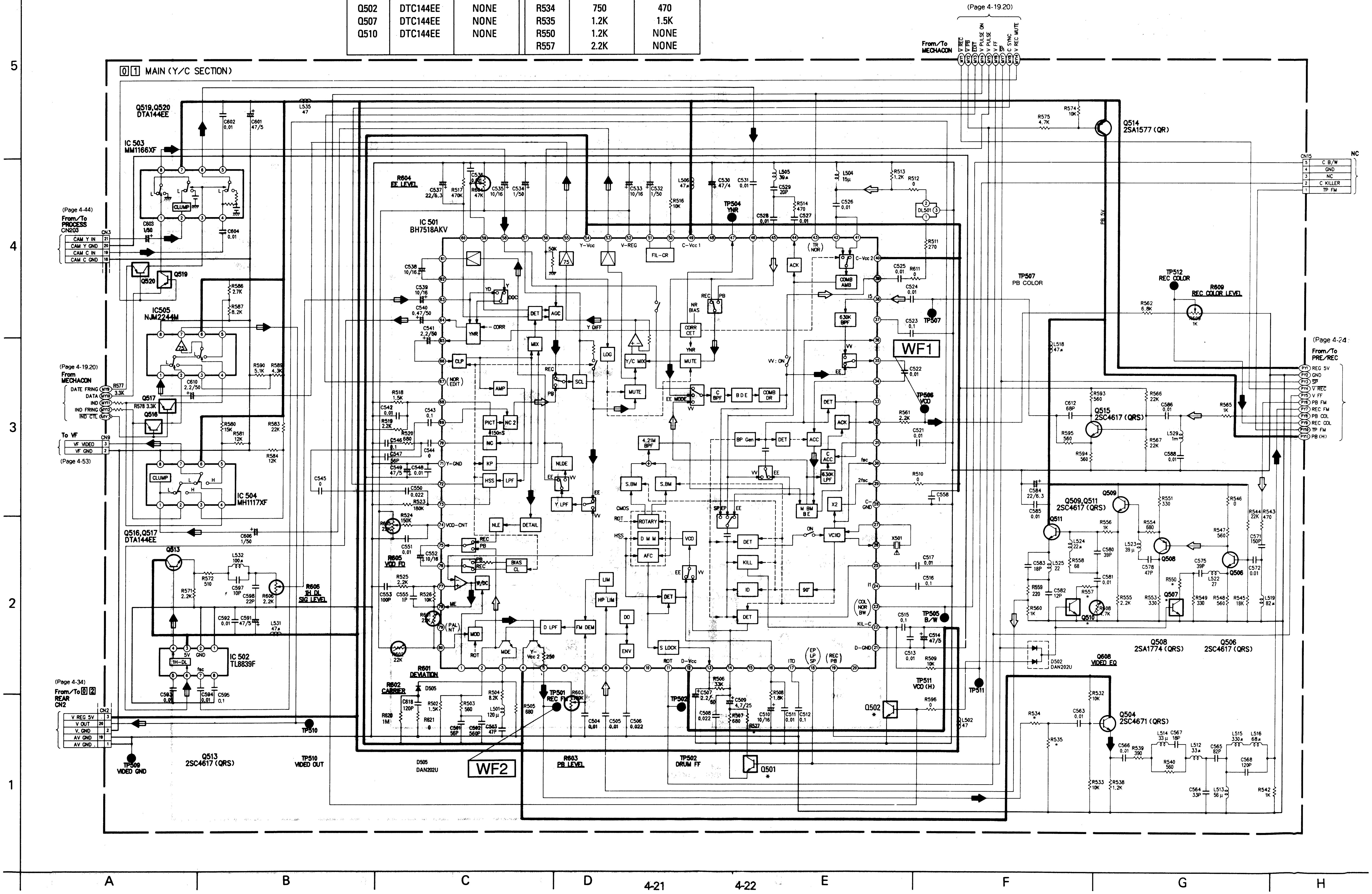
COMPARISON CHART OF MODELS & MARKS (*)

REF. No.	MODELS	
	AX75EK	AX75EG
R305	1.5K	NONE
R308	NONE	0
R309	0	NONE

4.9 Y/C SCHEMATIC DIAGRAM

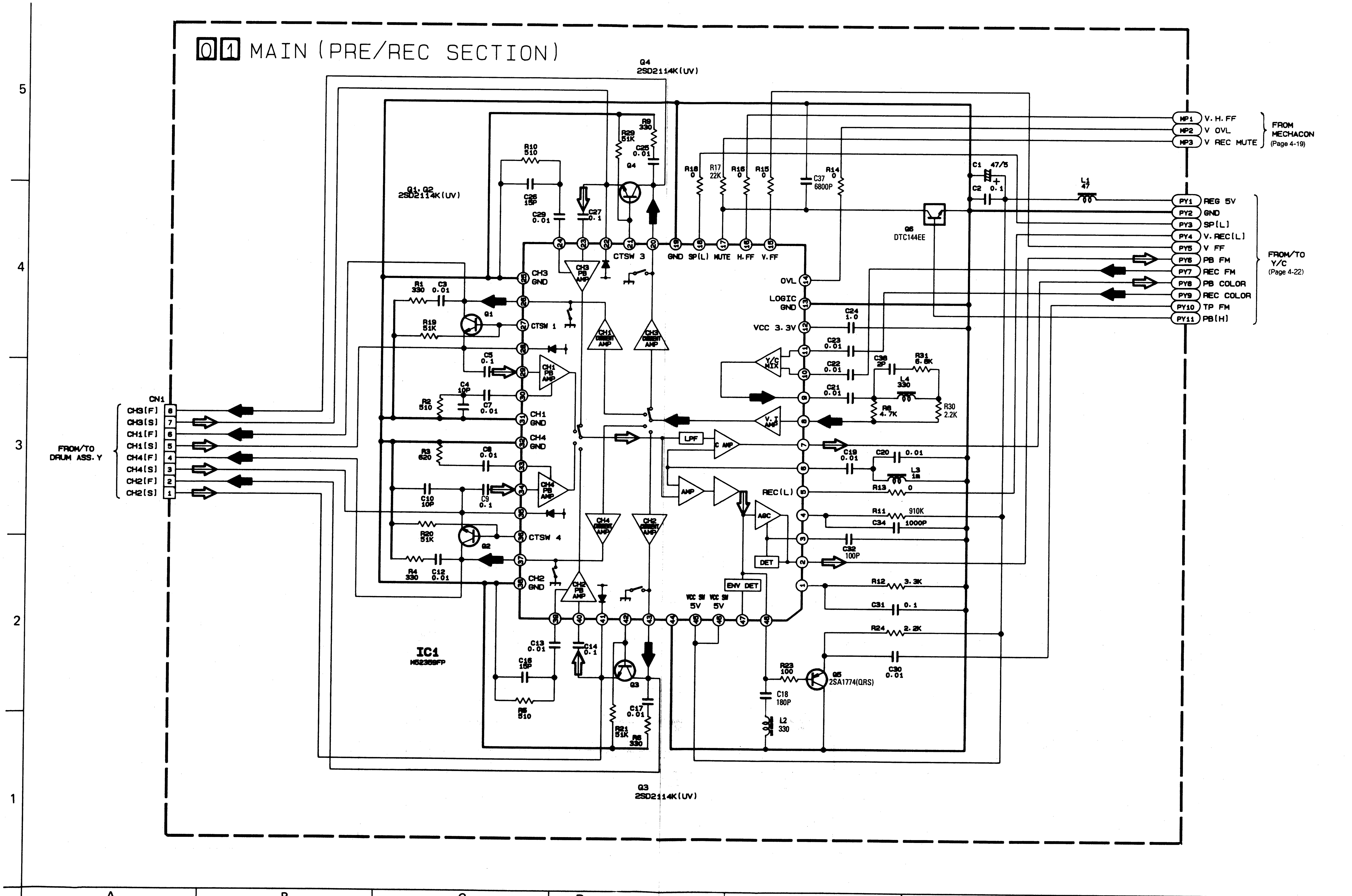
COMPARISION CHART OF MODELS & MARKS (*)

REF. No.	MODELS		REF. No.	MODELS	
	AX75EK	AX75EG		AX75EK	AX75EG
Q501	DTC144EE	NONE	R527	1.5K	NONE
Q502	DTC144EE	NONE	R534	750	470
Q507	DTC144EE	NONE	R535	1.2K	1.5K
Q510	DTC144EE	NONE	R550	1.2K	NONE
			R557	2.2K	NONE



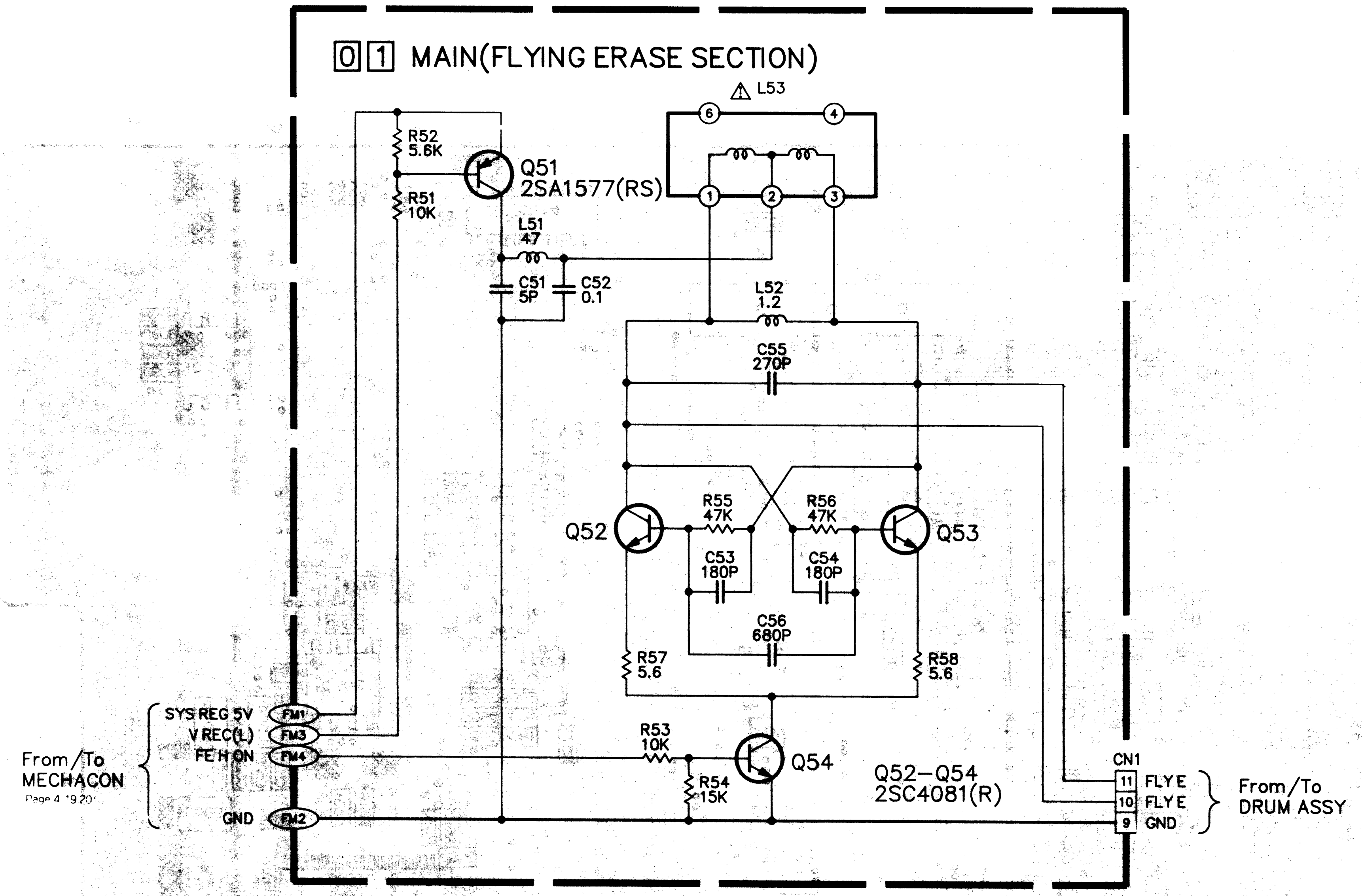
01 MAIN (Y/C SECTION)
Q519,Q520 DTA144EE
IC 503 MM1166XF
IC505 NJM2244M
IC 504 MH1117XF
Q516,Q517 DTA144EE
IC 502 TL8839F
IC 501 BH7518AKV
Q513 2SC4617 (QRS)
Q514 2SA1577 (QR)
Q515 2SC4617 (QRS)
Q509,Q511 2SC4617 (QRS)
Q508 2SA1774 (QRS)
Q506 2SC4617 (QRS)
Q504 2SC4671 (QRS)
Q502 *
Q501 *
Q507
Q510
Q508 VIDEO EQ
D505 DAN202U
D502 DAN202U
X501
WF1
WF2
(Page 4-44) From/To PROCESS CN203
CN3
CAM Y IN
CAM Y GND
CAM C IN
CAM C GND
(Page 4-19.20) From MECHACON
DATE FRING
DATA
IND
IND FRING
IND CTL
To VF
CN9
VF VIDEO
VF GND
(Page 4-53)
(Page 4-34) From/To 02 REAR CN2
V REG 5V
V OUT
V. GND
AV GND
AV GND
(Page 4-19.20) From/To MECHACON
V REC
V PB
EDIT
V PULSE ON
V PULSE
V FF
SP
C SYNC
REC MUTE
CN15
C B/W
GND
NC
C KILLER
TP FM
NC
(Page 4-24) From/To PRE/REC
REG 5V
GND
SP
V REC
V FF
PB FM
REC FM
PB COL
REC COL
TP FM
PB (H)
R604 FE LEVEL
R605 VCO FD
R606 1H DL SIG LEVEL
R601 DEVIATION
R602 CARRIER
R603 PB LEVEL
R609 REC COLOR LEVEL
TP501 REC FM
TP502 DRUM FF
TP504 YNR
TP505 B/W
TP506 VCO
TP507 PB COLOR
TP509 VIDEO GND
TP510 VIDEO OUT
TP511 VCO (H)
TP512 REC COLOR
PB 5V
Y-Vcc
V-REG
C-Vcc 1
C-Vcc 2
FIL-CR
YNR
CORR
DET
AGC
MIX
AMP
PICT
NC 2
NC
KP
HSS
LPF
NLE
DETAIL
BIAS CL
W/DC
MOD
ROT
MDE
D LPF
FM DEM
LIM
HP LIM
DO
ENV
S LOCK
Y/C MIX
MUTE
LOG
SCL
NLDE
Y LPF
CORR CET
C BPF
BDE
COMB DR
4.21M BPF
S.BM
ROTARY
DMM
AFC
VCO
BP Gen
ACC
C ACC
630K LPF
630K BPF
COMB AMB
ACK
M BM BE
X2
VCXO
KILL
ID
90°
CLP
CLUMP
1H-DL
A
B
C
D
E
F
G
H
1
2
3
4
5

4.10 PRE/REC SCHEMATIC DIAGRAM


01 MAIN (PRE/REC SECTION)
Q4 2SD2114K(UV)
Q1, Q2 2SD2114K(UV)
Q3 2SD2114K(UV)
Q5 2SA1774(QRS)
Q6 DTC144EE
IC1 M52369FP
CN1
CH3(F) 8
CH3(S) 7
CH1(F) 6
CH1(S) 5
CH4(F) 4
CH4(S) 3
CH2(F) 2
CH2(S) 1
FROM/TO DRUM ASS.Y
MP1 V.H.FF
MP2 V OVL
MP3 V REC MUTE
FROM MECHACON (Page 4-19)
PY1 REG 5V
PY2 GND
PY3 SP(L)
PY4 V.REC(L)
PY5 V FF
PY6 PB FM
PY7 REC FM
PY8 PB COLOR
PY9 REC COLOR
PY10 TP FM
PY11 PB(H)
FROM/TO Y/C (Page 4-22)
R1 330
C3 0.01
R19 51K
C5 0.1
C4 10P
R2 510
C7 0.01
R3 620
C8 0.01
C10 10P
C9 0.1
R20 51K
R4 330
C12 0.01
R10 510
C26 15P
C29 0.01
C27 0.1
R29 51K
R9 330
C25 0.01
R18 0
R17 22K
R16 0
R15 0
C37 6800P
R14 0
C1 47/5
C2 0.1
L1 47
C24 1.0
C23 0.01
C22 0.01
C21 0.01
C38 2P
R31 6.8K
L4 330
R6 4.7K
R30 2.2K
C19 0.01
C20 0.01
L3 1m
R13 0
R11 910K
C34 1000P
C32 100P
R12 3.3K
C31 0.1
R24 2.2K
C30 0.01
R23 100
C18 180P
L2 330
C13 0.01
C14 0.1
C16 15P
R5 510
C17 0.01
R21 51K
R8 330
CH3 GND
CTSW 1
CH1 PB AMP
CH1 GND
CH4 GND
CH4 PB AMP
CTSW 4
CH2 GND
CH3 PB AMP
CH1 CURRENT AMP
CH3 CURRENT AMP
CH4 CURRENT AMP
CH2 CURRENT AMP
CH2 PB AMP
CTSW 3
GND
SP(L)
MUTE
H.FF
V.FF
OVL
LOGIC GND
VCC 3.3V
Y/C MIX
V.I AMP
LPF
C AMP
AMP
REC(L)
AGC
DET
ENV DET
VCC SW 5V
VCC SW 5V
1
2
3
4
5
A
B
C
D
E
F
G
H

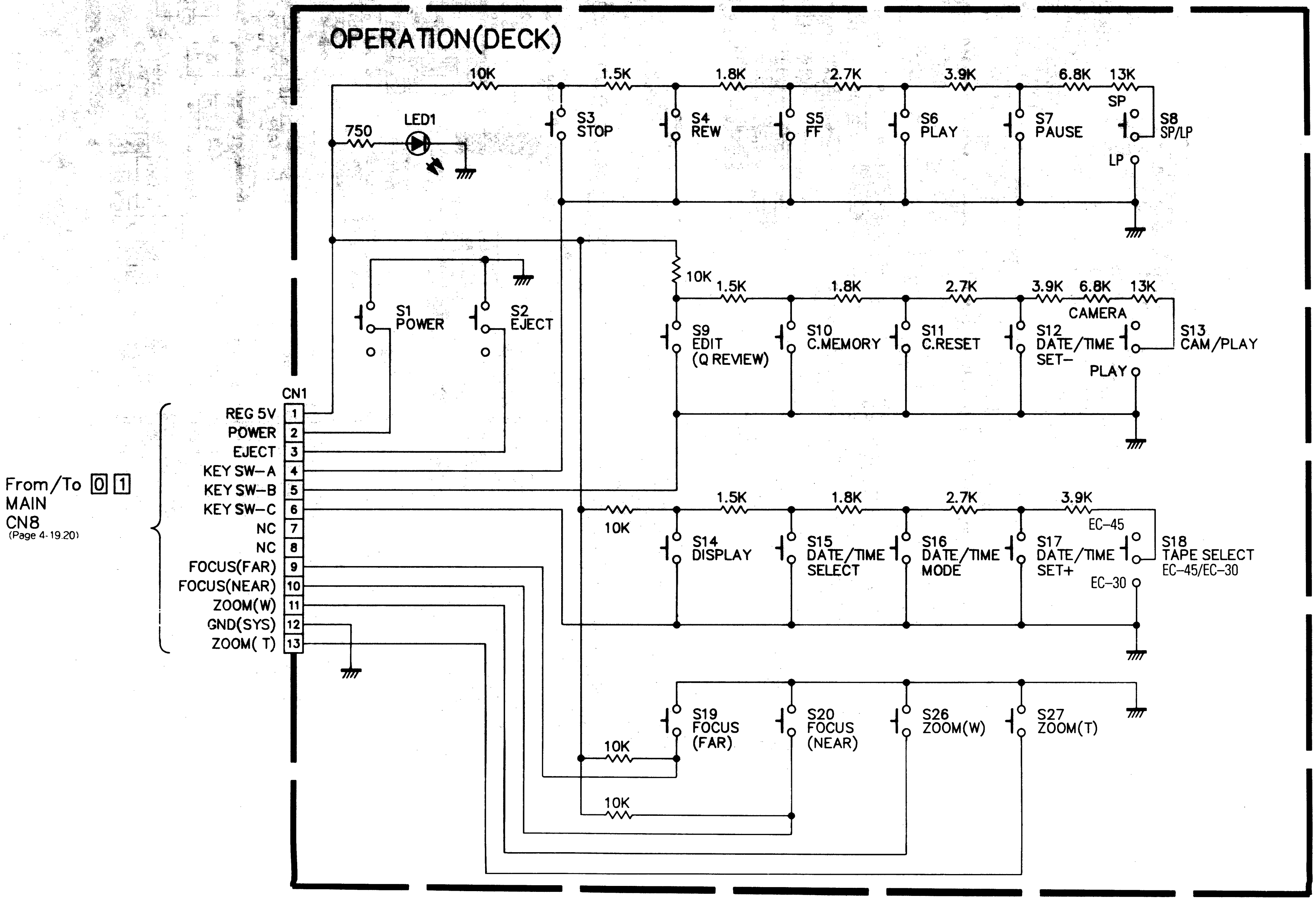
4.11 FLYING ERASE AND OPERATION (DECK) SCHEMATIC DIAGRAMS

— FLYING ERASE —



0 1 MAIN(FLYING ERASE SECTION)
L53
R52 5.6K
R51 10K
Q51 2SA1577(RS)
L51 47
C51 5P
C52 0.1
L52 1.2
C55 270P
R55 47K
R56 47K
Q52
Q53
C53 180P
C54 180P
C56 680P
R57 5.6
R58 5.6
R53 10K
R54 15K
Q54
Q52–Q54 2SC4081(R)
SYS REG 5V
V REC(L)
FE H ON
GND
FM1
FM3
FM4
FM2
From/To MECHACON
Page 4-19,20
CN1
11 FLYE
10 FLYE
9 GND
From/To DRUM ASSY

— OPERATION (DECK) —

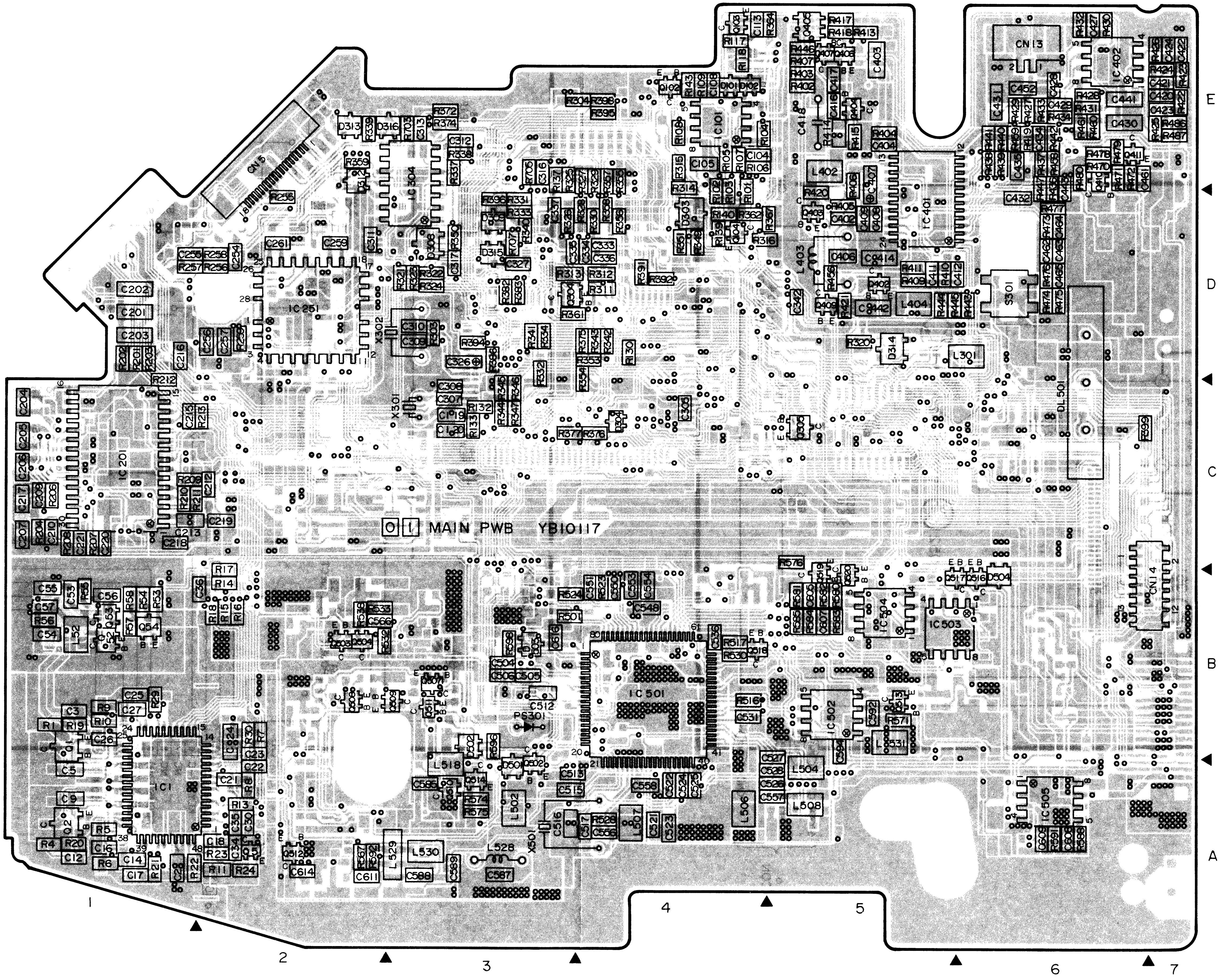


OPERATION(DECK)
10K
1.5K
1.8K
2.7K
3.9K
6.8K
13K
750
LED1
S3 STOP
S4 REW
S5 FF
S6 PLAY
S7 PAUSE
SP
S8 SP/LP
LP
S1 POWER
S2 EJECT
10K
S9 EDIT (Q REVIEW)
S10 C.MEMORY
S11 C.RESET
CAMERA
S12 DATE/TIME SET–
PLAY
S13 CAM/PLAY
S14 DISPLAY
S15 DATE/TIME SELECT
S16 DATE/TIME MODE
S17 DATE/TIME SET+
EC-45
EC-30
S18 TAPE SELECT EC-45/EC-30
S19 FOCUS (FAR)
S20 FOCUS (NEAR)
S26 ZOOM(W)
S27 ZOOM(T)
CN1
1 REG 5V
2 POWER
3 EJECT
4 KEY SW-A
5 KEY SW-B
6 KEY SW-C
7 NC
8 NC
9 FOCUS(FAR)
10 FOCUS(NEAR)
11 ZOOM(W)
12 GND(SYS)
13 ZOOM(T)
From/To 0 1 MAIN CN8
(Page 4-19,20)

Note: This schematic diagram is only for reference. Avoid replacing individual parts. Replace the entire unit only.

4.12 MAIN CIRCUIT BOARD

FOIL SIDE (B)



01 MAIN PWB YB10117
IC1
IC101
IC201
IC251
IC304
IC401
IC402
IC501
IC502
IC503
IC504
IC505
CN5
CN13
CN14
DL501
S301
X301
X302
X501
PS301
L301
L402
L403
L404
L502
L504
L506
L507
L508
L518
L528
L529
L530
A
B
C
D
E
1
2
3
4
5
6
7

PARTS LOCATION GUIDE <MAIN BOARD>

REF. NO.	LOCATION
IC	
IC1	B-1A
IC101	B-4E
IC102	A-2C
IC201	B-1C
IC251	B-2D
IC301	A-4D
IC302	A-5C
IC303	A-6C
IC304	B-3E
IC305	A-5D
IC306	A-4C
IC307	A-5C
IC308	A-3C
IC401	B-5D
IC402	B-6E
IC501	B-4B
IC502	B-5B
IC503	B-5B
IC504	B-5B
IC505	B-6A
REF. NO.	LOCATION
TRANSISTOR	
Q1	B-1A
Q2	B-1A
Q3	A-1A
Q4	A-1B
Q5	B-2A
Q6	A-2B
Q51	A-1B
Q52	B-1B
Q53	B-1B
Q54	B-1B
Q101	A-3C
Q102	B-4E
Q103	B-4E
Q104	B-4D
Q251	A-2D
Q301	A-3D
Q303	A-4E
Q304	B-3D
Q305	B-5C
Q306	A-3C
Q307	A-3C
Q308	A-3D
Q402	B-5D
Q403	B-5D
Q404	B-5E
Q405	B-5E
Q406	B-5E
Q407	B-5E
Q409	B-5D
Q410	B-6E
Q411	B-6E
Q501	A-4A
Q502	B-3A
Q503	B-2B
Q504	B-2B
Q506	A-2B
Q507	B-3B
Q508	B-2B
Q509	B-3B
Q510	B-3A
Q511	B-3B
Q512	B-2A
Q513	B-5B
Q514	B-3A
Q515	A-3A
Q516	B-6B
Q517	B-5B
Q518	B-4B
Q519	B-5B
Q520	B-5B
Q521	A-6B
Q522	A-6B
Q523	A-6B
REF. NO.	LOCATION
DIODE	
D101	B-4E
D102	B-4E
D202	A-1C
D301	A-4C
D302	A-4C
D303	B-4D
D304	B-4C
D305	A-6C
D306	A-2D
D307	A-5C
D308	B-3D
D309	B-3D
D311	A-5C
D312	B-2E
D313	B-2E
D314	B-5D
D315	B-3D
D316	B-2E
D317	A-3E
D318	A-3E
D501	B-3A
D502	B-3B
D503	B-3B
D504	B-6B
D505	A-4B
REF. NO.	LOCATION
RESISTOR	
R1	B-1B
R2	A-1A
R3	A-1A
R4	B-1A
R5	B-1A
R6	B-1A
R7	B-2B
R8	B-2A
R9	B-2B
R10	B-2B
R11	B-2A
R12	A-2A
R13	B-2A
R14	B-2B
R15	B-2B
R16	B-2B
R17	B-2B
R18	B-2B
R19	B-1B
R20	B-1A
R21	B-1A
R22	B-1A
R23	B-2A
R24	B-2A
R29	B-1B
R30	B-2B
R31	A-2B
R51	A-1B
R52	A-1B
R53	B-1B
R54	B-1B
R55	B-1B
R56	B-1B
R57	B-1B
R58	B-1B
R101	B-4D
R102	B-4D
R103	B-4D
R104	B-4E
R105	B-4E
R106	B-4E
R107	B-4E
R108	B-4E
R109	B-4E
R111	A-2C
R112	A-2C
R113	A-2C
R114	A-2C
R117	B-4E
R118	B-4E
R119	A-4D
R120	A-2C
R121	A-3C
R122	A-2C
R123	A-3C
R124	A-2C
R125	A-2C
R126	A-5C
R127	A-4C
R130	B-4D
R132	B-3C
R133	B-3C
R134	A-3C
R135	A-3C
R137	B-3E
R139	B-4D
R140	B-4D
R142	A-4E
R143	B-4E
R201	B-1D
R202	B-1D
R203	B-1D
R204	B-1C
R205	A-1C
R206	B-1C
R207	B-1C
R208	B-1C
R209	B-1C
R210	B-1C
R211	B-2C
R212	B-1C
R213	B-2C
R214	A-1C
R251	A-2D
R252	A-2D
R253	A-2D
R254	A-2D
R255	B-2D
R256	B-2D
R257	B-2D
R258	B-2D
R259	B-2D
R260	A-2D
R261	A-2D
R262	A-2D
R263	A-2D
R264	A-2D
R265	A-2D
R266	A-2D
R267	A-2C
R268	A-2C
R269	A-2D
R270	A-2D
R271	A-2D
R301	A-4C
R302	A-3C
R303	B-3D
R304	B-3E
R305	A-4D
R306	A-4D
R307	A-4D
R308	A-4D
R309	A-4D
R310	A-4D
R311	B-4D
R312	B-4D
R313	B-3D
R314	B-4D
R315	B-4E
R316	B-4D
R317	A-5D
R318	A-5D
R319	A-5D
E320	B-5D
R321	B-3D
R322	B-3D
R323	B-3D
R324	B-3D
R325	B-3E
R326	B-3D
R327	B-3E
R328	B-3D
R329	B-4E
R330	B-4D
R331	B-3D
R332	B-3C
R333	B-3D
R334	B-3D
R335	A-3D
R336	A-3D
R337	B-3E
R338	B-3E
R339	B-2E
R340	B-3D
R341	B-3D
R342	B-4D
R343	B-4D
R344	B-3C
R345	B-3C
R346	B-3C
R347	B-3C
R348	A-6D
R349	B-4D
R350	B-3D
R351	B-4D
R352	A-3E
R353	B-4C
R354	B-3C
R355	B-4E
R356	B-4D
R357	B-4E
R358	B-4D
R359	B-2E
R360	A-4C
R361	B-3D
R362	B-4D
R363	A-5D
R364	B-4E
R365	A-5C
R366	A-5C
R367	B-4D
R368	A-5D
R369	A-4D
R370	A-4D
R372	B-3E
R374	B-3E
R375	B-3D
R376	B-4C
R377	B-3C
R378	A-2D
R379	A-3D
R380	A-2D
R381	A-3D
R382	B-3D
R383	B-3D
R385	A-2E
R386	B-3D
R387	A-4C
R388	A-3C
R389	A-3C
R390	A-3C
R391	B-4D
R392	B-4D
R393	A-6D
R394	B-3D
R395	B-4E
R396	B-3D
R397	A-4C
R398	B-4E
R399	B-6C
R402	B-5E
R403	B-5E
R404	B-5E
R405	B-5D
R406	B-5D
R407	B-5E
R409	B-5D
R410	B-5D
R411	B-5D
R412	A-5E
R413	B-5E
R414	B-5E
R415	B-5E
R417	B-5E
R418	B-5E
R419	B-6E
R420	B-5D
R421	B-5D
R422	B-7E
R423	B-7E
R424	B-7E
R425	B-7E
R426	B-7E
R427	B-6E
R428	B-6E
R429	B-6E
R430	B-6E
R431	B-6E
R432	B-6E
R433	B-6E
R434	B-6E
R436	B-6D
R437	B-6E
R438	B-6E
R439	B-6E
R440	B-6E
R441	B-6E
R442	B-6E
R443	B-6D
R444	B-5D
R445	B-5D
R446	B-5E
R447	B-6D
R456	B-5D
R458	B-6E
R459	B-6E
R460	B-6E
R461	B-6E
R470	B-6E
R471	B-6E
R472	B-6E
R473	B-6D
R474	B-6D
R475	B-6D
R476	B-6D
R477	B-6D
R478	B-6E
R479	B-6E
R480	B-6E
R486	B-7E
R487	B-7E
R490	A-6D
R491	A-6D
R492	A-6D
R501	B-3B
R502	A-3B
R503	A-3B
R504	A-3B
R505	A-3B
R506	A-4B
R507	A-4B
R508	A-4B
R509	A-3B
R510	A-4B
R511	A-6C
R512	A-5A
R513	A-5A
R514	A-5A
R515	A-5A
R516	B-4B
R517	B-4B
R518	A-4C
R519	A-4B
R520	A-4B
R521	A-4B
R522	A-4C

R523	B-4B	R589	A-6A	C29	A-1B	C221	B-1C	C404	B-5E	C511	A-4B	C571	A-2B
R524	B-3B	R590	A-6A	C30	B-2A	C251	A-2D	C405	A-5D	C512	B-3B	C572	A-2B
R525	A-4B	R591	B-6A	C31	A-2A	C252	A-2D	C406	B-5D	C513	B-3A	C573	A-2A
R526	A-4B	R592	B-2A	C32	A-2A	C253	A-2D	C407	B-5E	C514	A-3A	C574	A-2B
R527	A-4B	R593	A-3A	C34	B-2A	C254	B-2D	C408	B-5D	C515	B-3A	C575	A-3B
R528	B-4A	R594	A-3A	C35	B-2A	C255	B-2D	C409	B-5D	C516	B-3A	C576	A-2A
R529	A-3B	R595	A-3A	C36	B-2B	C256	B-2D	C410	A-6D	C517	B-4A	C577	A-2A
R530	B-4B	R596	B-3B	C37	A-2B	C257	B-2D	C411	B-5D	C518	A-4A	C578	A-2B
R531	A-3B	R598	B-3B	C38	A-2B	C258	A-2D	C412	B-5D	C519	A-4B	C579	A-2B
R532	B-2B	R611	A-6B	C51	A-1B	C259	B-2D	C413	A-5D	C520	A-4B	C580	A-3B
R533	B-2B	R612	A-6B	C52	A-1B	C260	A-2D	C414	B-5D	C521	B-4A	C581	A-3A
R534	A-3B	R613	A-6B	C53	B-1B	C261	B-2D	C415	A-5D	C522	B-4A	C582	A-3B
R535	A-3B	R614	A-6B	C54	B-1B	C301	A-4C	C416	B-5E	C523	B-4A	C583	A-3B
R538	B-2B	R615	A-6B	C55	B-1B	C302	A-4C	C417	B-5E	C524	B-4A	C584	A-3A
R539	A-2B	R616	A-6B	C56	B-1B	C303	A-4C	C419	A-5E	C525	B-4A	C585	B-3A
R540	A-2B	R617	A-6B	C57	B-1B	C304	A-4C	C420	B-7E	C526	B-5A	C586	A-3A
R542	A-2B	R618	A-6B	C101	A-5E	C305	B-4C	C421	B-7E	C527	B-5A	C587	B-3A
R543	A-2B	R620	A-4B	C102	A-5E	C307	B-3C	C422	B-7E	C528	B-5A	C588	B-3A
R544	A-2A	R621	A-3B	C103	A-4D	C308	B-3C	C423	B-7E	C529	A-5A	C589	B-3A
R545	A-2B	R701	A-5C	C104	B-4E	C309	B-3D	C424	B-7E	C530	A-4B	C591	A-5B
R546	A-2A	R702	A-5C	C105	B-4E	C310	B-3D	C425	A-6E	C531	B-4B	C592	B-5B
R547	A-2B	R703	B-3E	C106	A-5D	C311	B-2D	C426	A-6E	C532	A-5B	C593	A-6B
R548	A-2B	R704	A-3D	C107	A-4D	C312	B-3E	C427	B-6E	C533	A-4B	C594	B-5B
R549	A-3B	R706	B-3E	C108	B-4E	C313	B-3E	C428	B-6E	C534	A-5B	C595	A-5B
R550	A-3B	R707	B-3D	C109	A-1C	C314	A-2E	C429	B-6E	C535	A-5B	C596	A-5B
R551	A-2A	R708	A-4D	C110	A-3C	C315	A-4E	C430	B-6E	C536	B-4B	C597	A-5B
R552	A-2A	REF. NO.	LOCATION	C111	A-2C	C316	B-3E	C431	B-6E	C537	A-5B	C598	A-5B
R553	A-2B	CAPACITOR		C113	B-4E	C317	B-3D	C432	B-6D	C538	A-5B	C601	A-6A
R554	A-2B	C1	A-1A	C114	A-5D	C318	A-3D	C434	B-6E	C539	A-4B	C602	A-6A
R555	A-3B	C2	B-1A	C115	A-4C	C319	A-6C	C435	B-6D	C540	A-5B	C603	A-6B
R556	A-3B	C3	B-1B	C116	A-4C	C320	A-6C	C436	A-6D	C541	A-5B	C604	A-5B
R557	A-3A	C4	A-1A	C119	B-3C	C321	A-5D	C437	A-6D	C542	A-4B	C605	B-5B
R558	A-3B	C5	B-1A	C120	B-3C	C322	A-5D	C438	A-7D	C543	A-4B	C606	A-5B
R559	A-3B	C6	A-1A	C121	A-3C	C323	A-5D	C439	A-7D	C544	A-4B	C607	B-5B
R560	A-3B	C7	A-2A	C122	A-3C	C325	A-5D	C440	A-6E	C545	A-5B	C608	B-6A
R561	A-2A	C8	A-1A	C125	A-4E	C326	B-3D	C441	B-6E	C546	A-4B	C609	B-6A
R562	A-2A	C9	B-1A	C201	B-1D	C327	B-3D	C442	B-5D	C547	A-4B	C610	A-6A
R563	A-2A	C10	A-1A	C202	B-1D	C328	A-4D	C443	B-6D	C548	B-4B	C611	B-2A
R565	A-2A	C11	A-1A	C203	B-1D	C329	A-4D	C450	A-6C	C549	A-4B	C612	A-3A
R566	A-3A	C12	B-1A	C204	B-1C	C330	A-4D	C452	B-6E	C550	B-4B	C613	A-3A
R567	B-2A	C13	A-1A	C205	B-1C	C331	A-4D	C460	A-6E	C551	B-4B	C614	B-2A
R571	B-5B	C14	B-1A	C206	B-1C	C332	A-4D	C461	B-6E	C552	A-3B	C615	A-3A
R572	A-5B	C15	A-1A	C207	B-1C	C333	B-4D	C462	B-6D	C553	B-4B	C616	B-3B
R574	B-3A	C16	B-1A	C208	A-1C	C334	B-4D	C463	B-6D	C554	B-4B	C618	A-4B
R575	B-3A	C17	B-1A	C209	B-1C	C335	B-3D	C464	B-6D	C555	A-4B	C621	A-6B
R576	B-5C	C18	B-2A	C210	B-1C	C336	B-4D	C466	A-7E	C556	B-4A	REF. NO.	LOCATION
R577	A-5C	C19	A-2A	C211	A-1C	C337	B-3D	C501	A-3B	C557	B-5A	COIL	
R578	A-5C	C20	A-2A	C212	B-2C	C338	A-3D	C502	A-3B	C558	B-4A	L1	A-2A
R580	B-5B	C21	B-2A	C213	B-1C	C339	A-5C	C503	A-3B	C559	A-4B	L2	A-2A
R581	B-5B	C22	B-2A	C214	A-1C	C340	A-5D	C504	B-3B	C563	A-2B	L3	A-2B
R583	B-5B	C23	B-2A	C215	B-1C	C341	A-3C	C505	B-3B	C564	A-2B	L4	A-2B
R584	B-5B	C24	B-2B	C216	B-1D	C342	B-5D	C506	B-3B	C565	A-2B	L51	A-1B
R585	B-5B	C25	B-1B	C217	B-1C	C343	A-5C	C507	A-4B	C566	B-2B	L52	B-1B
R586	A-6A	C26	B-1B	C218	B-1C	C401	A-6D	C508	A-4B	C567	A-2B	L53	A-1B
R587	A-6A	C27	B-1B	C219	B-2C	C402	B-5D	C509	A-4B	C568	A-2B	L301	B-6D
R588	B-6A	C28	A-1B	C220	B-1C	C403	B-5E	C510	A-4B	C570	A-2A	L401	A-5E

COMPONENT SIDE (A)

L402	B-5E
L404	B-5D
L501	A-3B
L502	B-3A
L503	A-4B
L504	B-5A
L505	A-5A
L506	B-4A
L507	B-4A
L508	B-5A
L512	A-2B
L513	A-2B
L514	A-3B
L515	A-2B
L516	A-2B
L518	B-3A
L519	A-2B
L520	A-2A
L521	A-2A
L522	A-3B
L523	A-3B
L524	A-3B
L525	A-3B
L529	B-3A
L530	B-3A
L531	B-5B
L532	A-5B
L535	A-6A
L536	A-2A

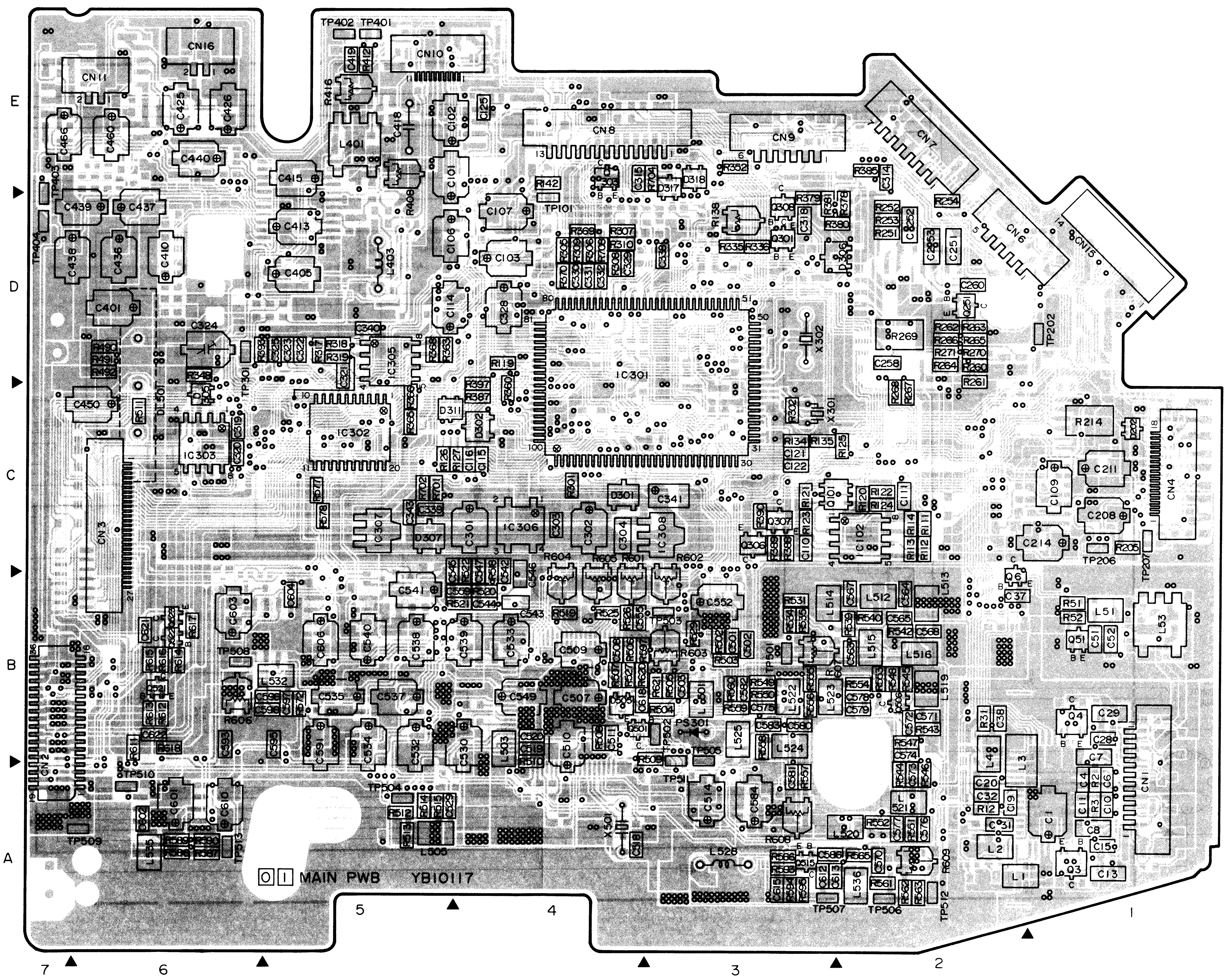
REF. NO.	LOCATION
DELAY LINE	
DL501	B-6C

REF. NO.	LOCATION
SWITCH	
S301	B-6D

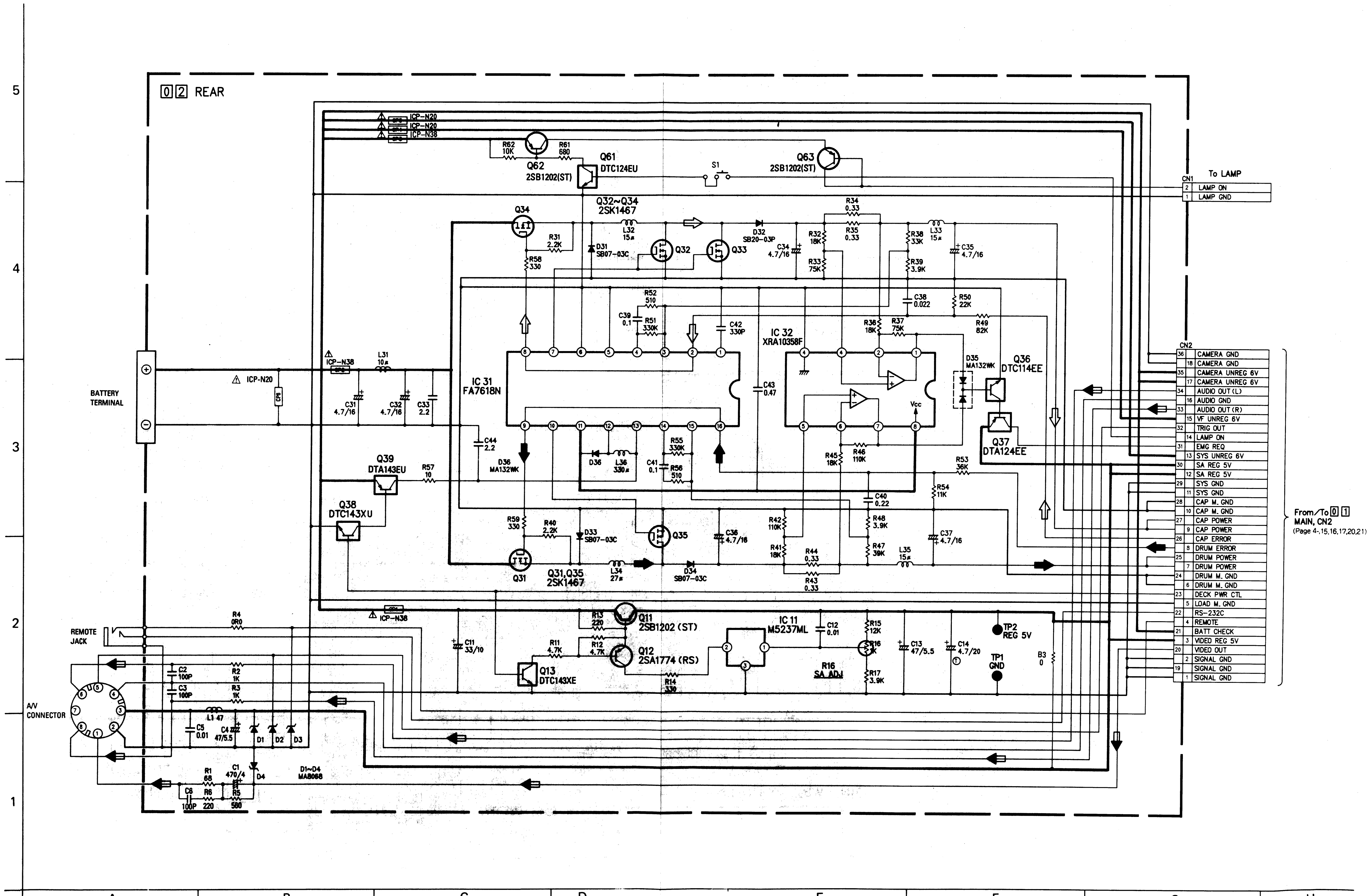
REF. NO.	LOCATION
CONNECTOR	
CN1	A-1A
CN2	A-7B
CN3	A-6C
CN4	A-1C
CN5	B-2E
CN6	A-2D
CN7	A-2E
CN8	A-4E
CN9	A-3E
CN10	A-5E
CN11	A-6E
CN13	B-6E
CN14	B-7B
CN16	A-6E

REF. NO.	LOCATION
TEST PIN	
TP101	A-4D
TP202	A-1D
TP206	A-1C
TP207	A-1C
TP301	A-6D
TP401	A-5E
TP402	A-5E
TP403	A-7E
TP404	A-7D
TP501	A-3B
TP502	A-3B
TP503	A-3B
TP504	A-3B
TP505	A-3B
TP506	A-2A
TP507	A-3A
TP508	A-6B
TP509	A-6A
TP510	A-6A
TP511	A-3B
TP512	A-2A
TP513	A-6A

REF. NO.	LOCATION
ADJUSTMENT	
R138	A-3D
R408	A-5E
R416	A-5E
R601	A-4B
R602	A-3B
R603	A-3B
R604	A-4B
R605	A-4B
R606	A-6B
R607	A-3B
R608	A-3A
R609	A-2A
C324	A-6D

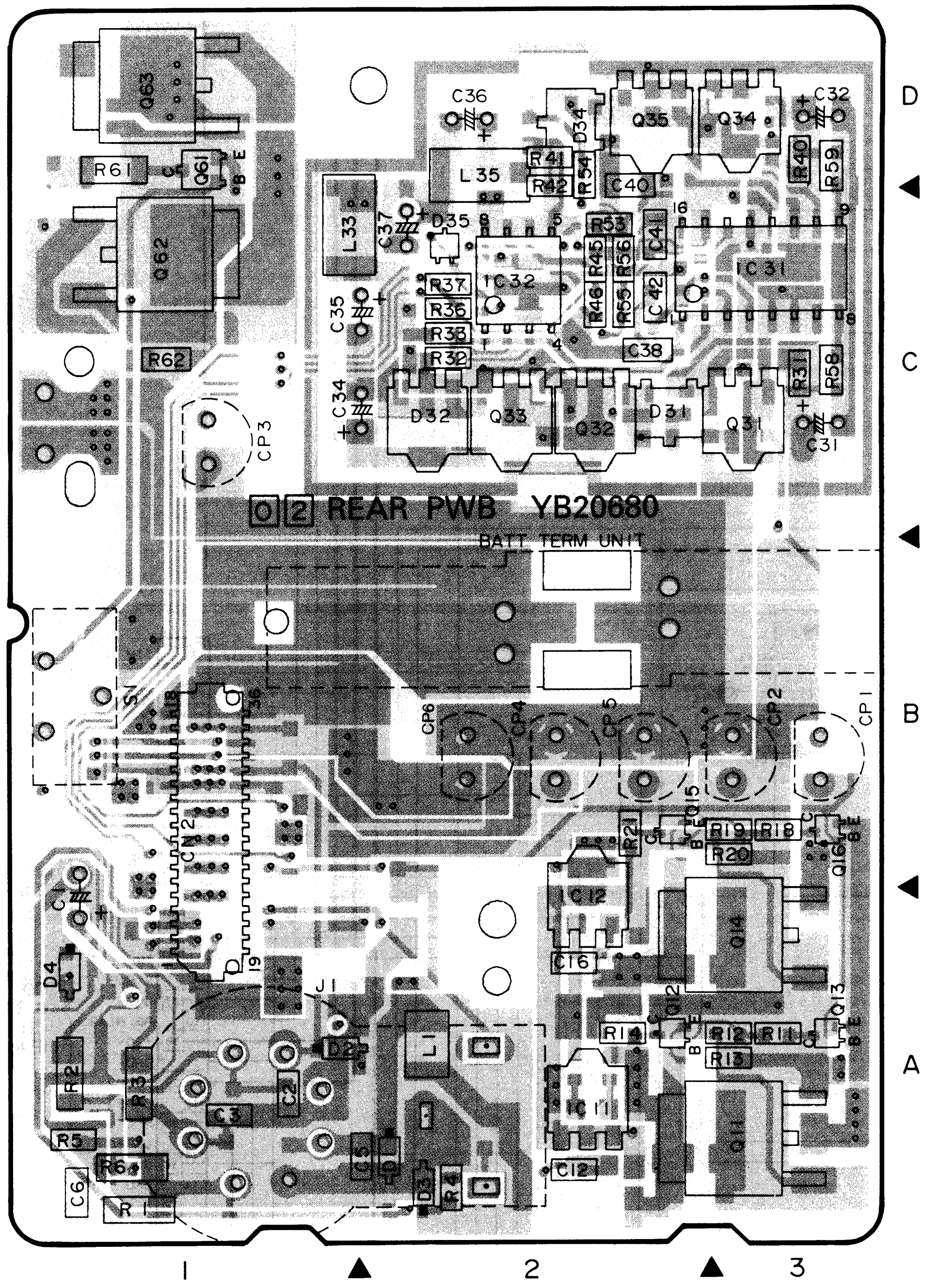

E
D
C
B
A
7
6
5
4
3
2
1
01 MAIN PWB YB10117
CN16
CN11
CN10
CN8
CN9
CN7
CN6
CN15
CN4
CN3
CN2
CN1
IC301
IC302
IC303
IC305
IC306
IC307
IC308
IC102
X301
X302
X501
DL501
TP401
TP402
TP101
TP202
TP206
TP207
TP301
TP403
TP404
TP501
TP502
TP503
TP504
TP505
TP506
TP507
TP508
TP509
TP510
TP511
TP512
TP513
PS301
L401
L403
L532
L528
L536
R606
R609

4.13 REAR SCHEMATIC DIAGRAM

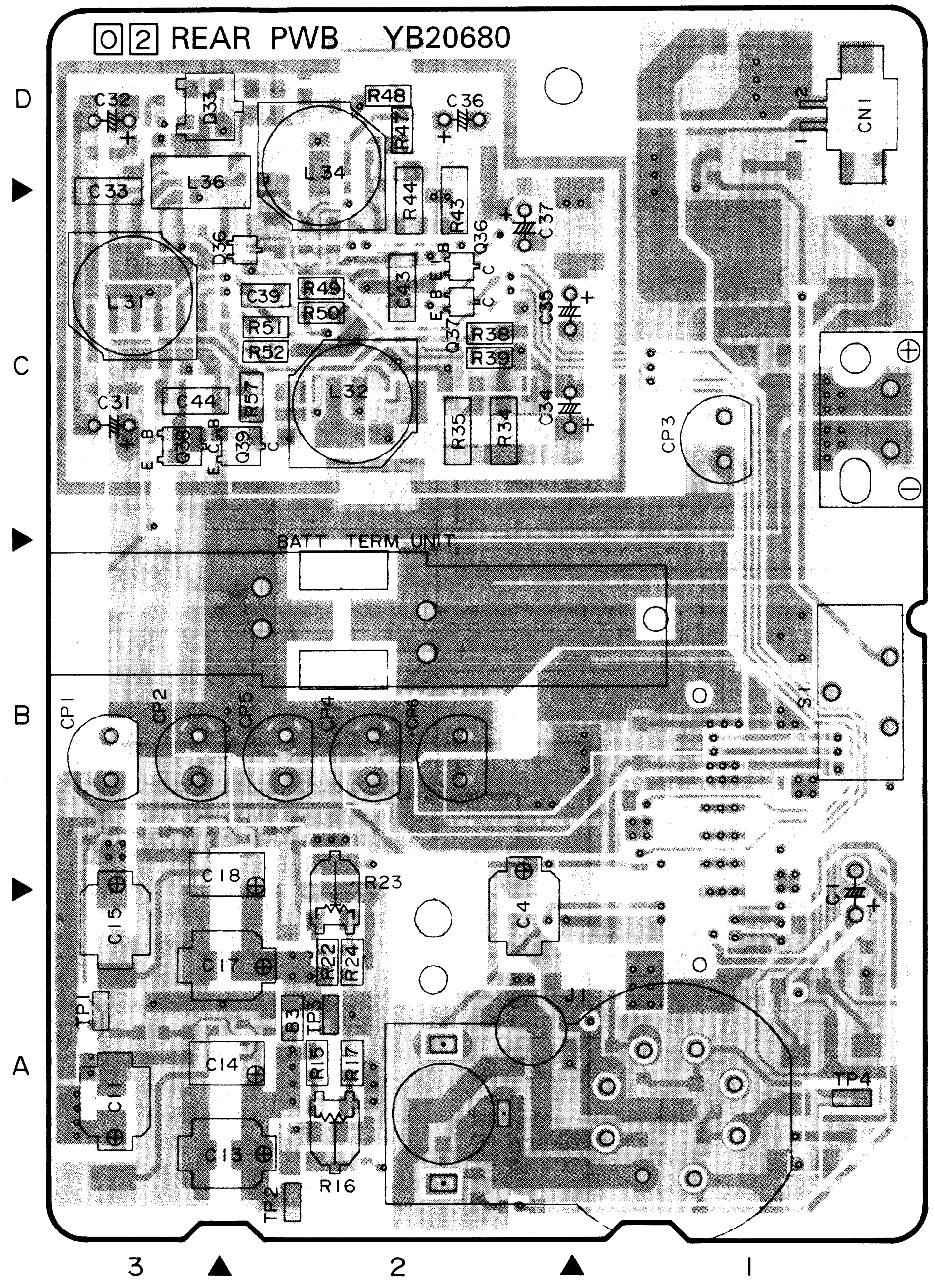

0 2 REAR
ICP-N20
ICP-N20
ICP-N38
R62 10K
R61 680
Q62 2SB1202(ST)
Q61 DTC124EU
S1
Q63 2SB1202(ST)
To LAMP
CN1
2 LAMP ON
1 LAMP GND
Q34
Q32~Q34 2SK1467
R31 2.2K
R58 330
L32 15μ
D31 SB07-03C
Q32
Q33
D32 SB20-03P
C34 4.7/16
R34 0.33
R35 0.33
R32 18K
R33 75K
R38 33K
R39 3.9K
L33 15μ
C35 4.7/16
R52 510
C39 0.1
R51 330K
C42 330P
C38 0.022
R50 22K
R49 82K
R36 18K
R37 75K
IC 32 XRA10358F
IC 31 FA7618N
C43 0.47
Vcc
D35 MA132WK
Q36 DTC114EE
Q37 DTA124EE
BATTERY TERMINAL
ICP-N20
ICP-N38
L31 10μ
C31 4.7/16
C32 4.7/16
C33 2.2
C44 2.2
D36 MA132WK
D36
L36 330μ
R55 330K
C41 0.1
R56 510
R45 18K
R46 110K
R53 36K
R54 11K
Q39 DTA143EU
R57 10
Q38 DTC143XU
R59 330
R40 2.2K
D33 SB07-03C
Q35
C36 4.7/16
C40 0.22
R48 3.9K
R42 110K
R41 18K
R44 0.33
R43 0.33
R47 39K
L35 15μ
C37 4.7/16
Q31
Q31,Q35 2SK1467
L34 27μ
D34 SB07-03C
ICP-N38
R4 0R0
REMOTE JACK
C11 33/10
R13 220
Q11 2SB1202 (ST)
R11 4.7K
R12 4.7K
Q12 2SA1774 (RS)
Q13 DTC143XE
R14 330
IC 11 M5237ML
C12 0.01
R15 12K
R16 1K
R16 SA ADJ
R17 3.9K
C13 47/5.5
C14 4.7/20
TP2 REG 5V
TP1 GND
B3 0
C2 100P
C3 100P
R2 1K
R3 1K
A/V CONNECTOR
L1 47
C5 0.01
C4 47/5.5
D1
D2
D3
D4
R1 68
C1 470/4
C6 100P
R6 220
R5 560
D1~D4 MA8068
CN2
36 CAMERA GND
18 CAMERA GND
35 CAMERA UNREG 6V
17 CAMERA UNREG 6V
34 AUDIO OUT (L)
16 AUDIO GND
33 AUDIO OUT (R)
15 VF UNREG 6V
32 TRIG OUT
14 LAMP ON
31 EMG REQ
13 SYS UNREG 6V
30 SA REG 5V
12 SA REG 5V
29 SYS GND
11 SYS GND
28 CAP M. GND
10 CAP M. GND
27 CAP POWER
9 CAP POWER
26 CAP ERROR
8 DRUM ERROR
25 DRUM POWER
7 DRUM POWER
24 DRUM M. GND
6 DRUM M. GND
23 DECK PWR CTL
5 LOAD M. GND
22 RS-232C
4 REMOTE
21 BATT CHECK
3 VIDEO REG 5V
20 VIDEO OUT
2 SIGNAL GND
19 SIGNAL GND
1 SIGNAL GND
From/To 0 1 MAIN, CN2
(Page 4-,15,16,17,20,21)
5
4
3
2
1
A
B
C
D
E
F
G
H

4.14 REAR CIRCUIT BOARD

FOIL SIDE (B)


D
C
B
A
1
2
3
REAR PWB YB20680
BATT TERM UNIT
Q63
Q61
Q62
R61
R62
CP3
C36
Q35
Q34
C32
L35
R41
R42
R54
D34
C40
R40
R59
L33
C37
D35
IC32
IC31
R53
R45
R56
C41
C42
R46
R55
R37
R36
R33
R32
C38
C35
C34
D32
Q33
Q32
D31
Q31
R31
R58
C31
S1
CN2
CP6
CP4
CP5
CP2
CP1
R21
Q15
R19
R18
R20
Q16
IC12
Q14
C16
C1
D4
J1
Q12
Q13
R14
R12
R11
R13
L1
D2
R2
R3
C2
C3
C5
D1
D3
R4
IC11
Q11
C12
R5
R6
C6
R

COMPONENT SIDE (A)


REAR PWB YB20680
D
C
B
A
3
2
1
C32
D33
R48
R47
C36
L34
C33
L36
R44
R43
Q36
C37
D36
L31
C39
R49
R50
C43
R51
R52
Q37
R38
R39
C35
L32
C31
C44
R57
Q38
Q39
R35
R34
C34
CN1
CP3
BATT TERM UNIT
S1
CP1
CP2
CP5
CP4
CP6
C18
R23
C15
C17
R22
R24
C4
C1
TP1
B3
TP3
C14
R15
R17
J1
TP4
C11
C13
R16
TP2

PARTS LOCATION GUIDE <REAR BOARD>

REF. NO.	LOCATION
IC	
IC11	B-2A
IC12	B-2A
IC31	B-3C
IC32	B-2C

REF. NO.	LOCATION
TRANSISTOR	
Q11	B-3A
Q12	B-2A
Q13	B-3A
Q14	B-3A
Q15	B-2B
Q16	B-3B
Q31	B-3C
Q32	B-2C
Q33	B-2C
Q34	B-3D
Q35	B-2D
Q36	A-2C
Q37	A-2C
Q38	A-3C
Q39	A-2C
Q61	B-1D
Q62	B-1C
Q63	B-1D

REF. NO.	LOCATION
DIODE	
D1	B-2A
D2	B-1A
D3	B-2A
D4	B-1A
D31	B-2C
D32	B-2C
D33	A-3D
D34	B-2D
D35	B-2C
D36	A-2C

REF. NO.	LOCATION
RESISTOR	
R1	B-1A
R2	B-1A
R3	B-1A
R4	B-2A
R5	B-1A
R6	B-1A
R11	B-3A
R12	B-3A
R13	B-3A
R14	B-2A
R15	A-2A
R17	A-2A
R18	B-3B
R19	B-3B
R20	B-3B
R21	B-2B
R22	A-2A
R24	A-2A
R31	B-3C
R32	B-2C
R33	B-2C
R34	A-2C
R35	A-2C
R36	B-2C
R37	B-2C
R38	A-2C
R39	A-2C
R40	B-3D
R41	B-2D
R42	B-2D
R43	A-2C
R44	A-2C
R45	B-2C
R46	B-2C
R47	A-2D
R48	A-2D
R49	A-2C
R50	A-2C
R51	A-2C
R52	A-2C
R53	B-2C
R54	B-2D
R55	B-2C
R56	B-2C
R57	A-2C
R58	B-3C
R59	B-3D
R61	B-1D
R62	B-1C
B3	A-2A

REF. NO.	LOCATION
CAPACITOR	
C2	B-1A
C3	B-1A
C4	A-2A
C5	B-2A
C6	B-1A
C11	A-3A
C12	B-2A
C13	A-2A
C14	A-2A
C15	A-3A
C16	B-2A
C17	A-2A
C18	A-2B
C33	A-3D
C38	B-2C
C39	A-2C
C40	B-2D
C41	B-2C
C42	B-2C
C43	A-2C
C44	A-3C

REF. NO.	LOCATION
COIL	
L1	B-2A
L31	A-3C
L32	A-2C
L33	B-1C
L34	A-2D
L35	B-2D
L36	A-3D

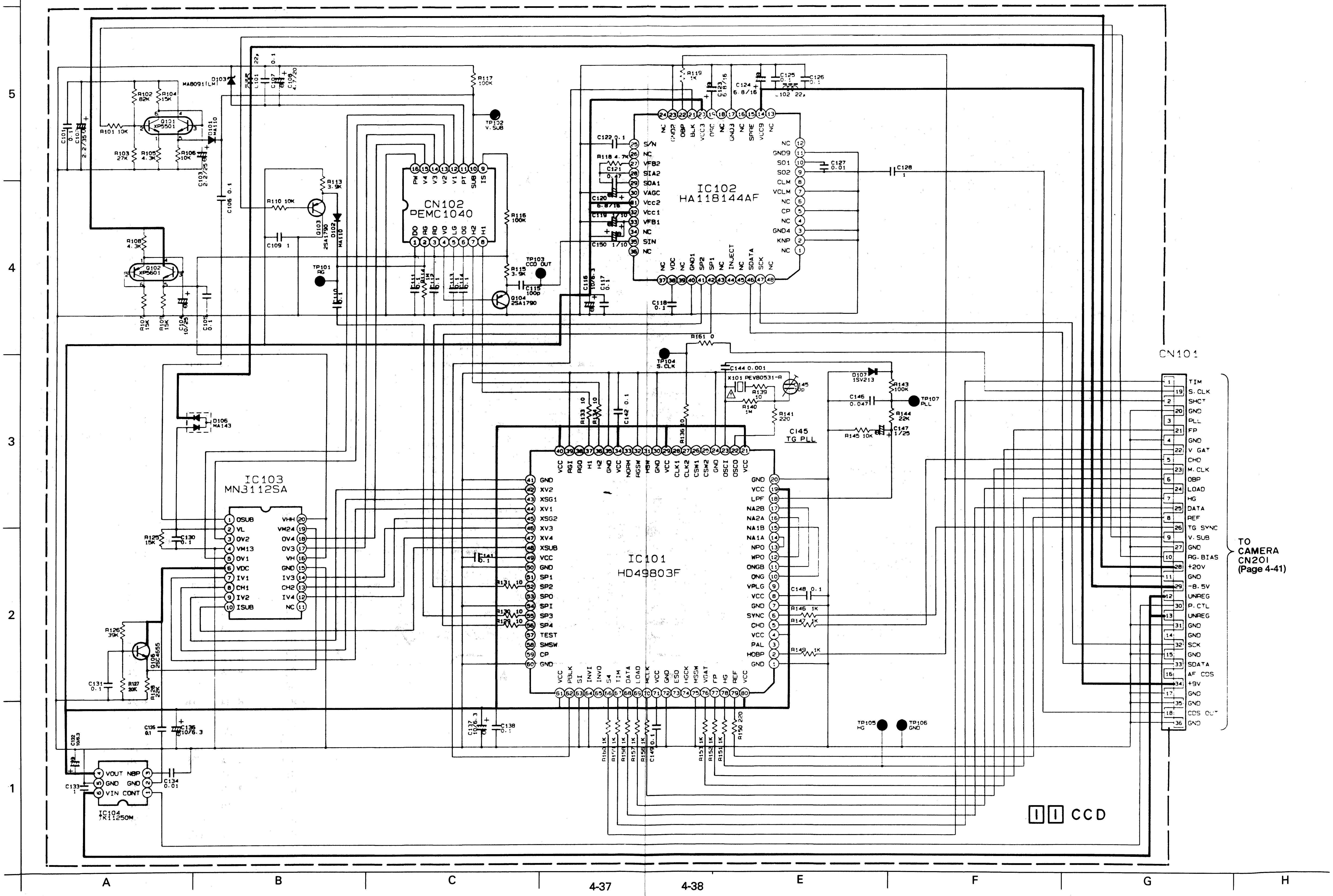
REF. NO.	LOCATION
CONNECTOR	
CN1	A-1D
CN2	B-1B

REF. NO.	LOCATION
CP	
CP1	A-3B
CP2	A-3B
CP3	A-1C
CP4	A-2B
CP5	A-2B
CP6	A-2B

REF. NO.	LOCATION
TEST PIN	
TP1	A-3A
TP2	A-2A
TP3	A-2A
TP4	A-1A

REF. NO.	LOCATION
ADJUSTMENT	
R16	A-2A
R23	A-2B

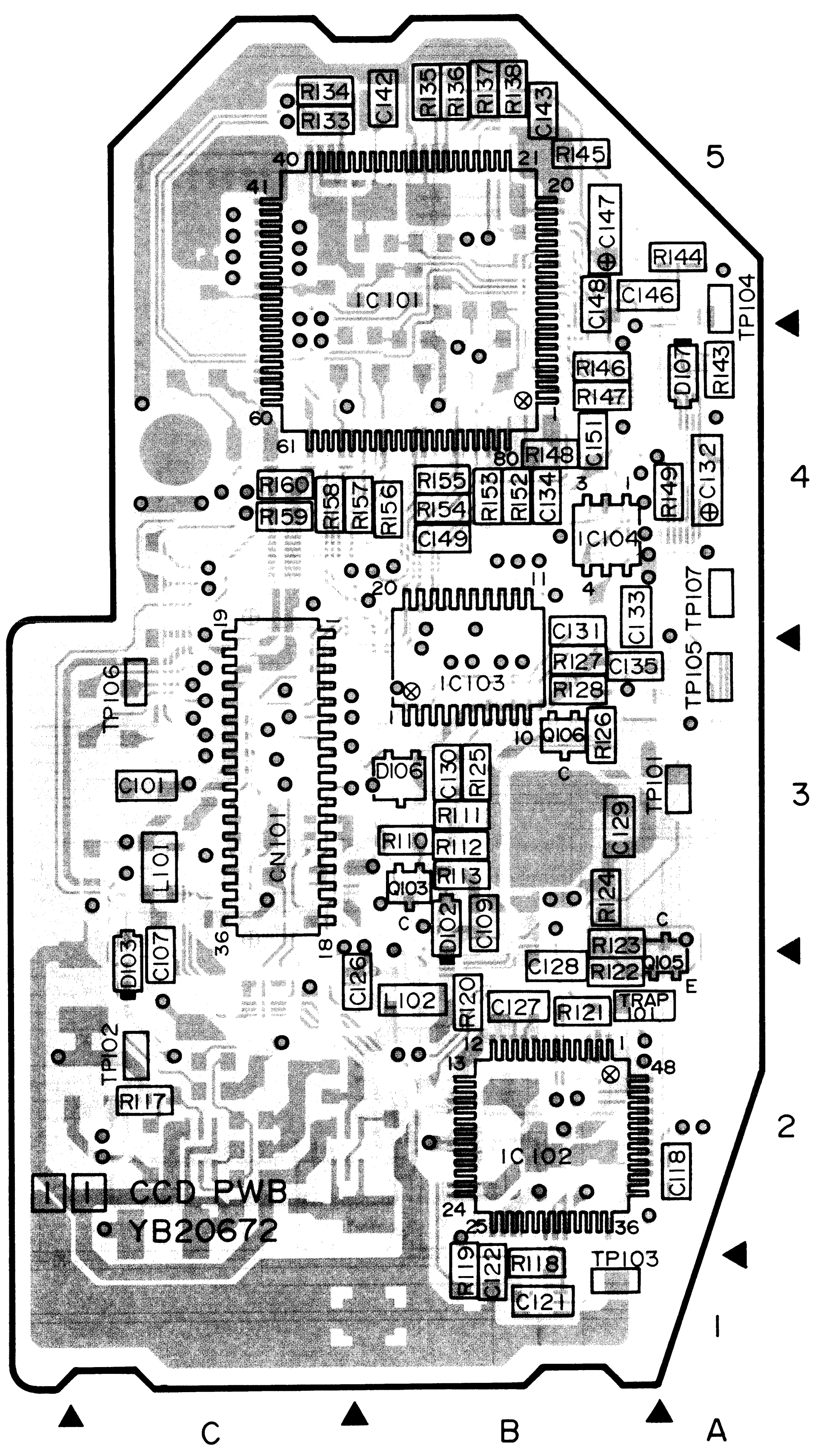
4.15 CCD SCHEMATIC DIAGRAM



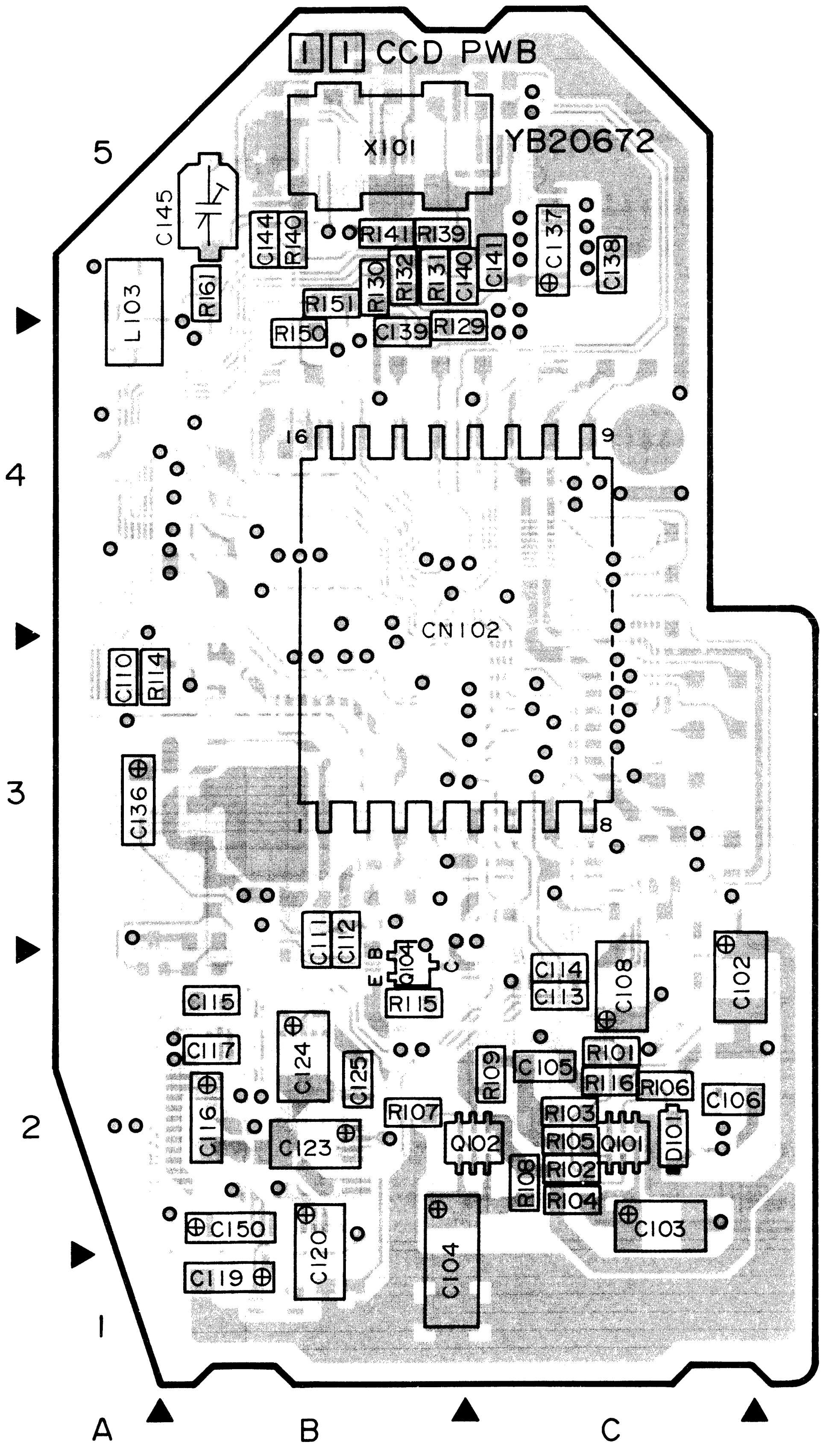
6
5
4
3
2
1
A
B
C
E
F
G
H
IC101
HD49803F
IC102
HA118144AF
IC103
MN3112SA
IC104
XK1250M
CN102
PEMC1040
CN101
TO CAMERA CN201 (Page 4-41)
Q101 XP5501
Q102 XP5601
Q103 2SA1790
Q104 2SA1790
Q105 2SC4655
D101 MA110
D102 MA110
D103 MA8091(LK)
D106 MA143
D107 1SV213
X101 PEVB0531-R
TP101 RG
TP102 V.SUB
TP103 CCD OUT
TP104 S.CLK
TP105 HG
TP106 GND
TP107 PLL
C145 TG PLL
TIM
S.CLK
SHCT
GND
PLL
FP
V.GAT
CHD
M.CLK
OBP
LOAD
HG
DATA
REF
TG SYNC
V.SUB
RG.BIAS
+20V
-8.5V
UNREG
P.CTL
SCK
SDATA
AF CDS
+9V
CDS OUT
VOUT
NBP
VIN
CONT
OSUB
VL
OV2
VM13
OV1
VDC
IV1
CH1
IV2
ISUB
VHH
VM24
OV4
OV3
VH
IV3
CH2
IV4
NC
XV2
XSG1
XV1
XSG2
XV3
XV4
XSUB
VCC
SP1
SP2
SPO
SPI
SP3
SP4
TEST
SMSW
CP
LPF
NA2B
NA2A
NA1B
NA1A
NPO
WPO
ONGB
ONG
VPLG
SYNC
PAL
HOBP
S/N
VFB2
SIA2
SDA1
VAGC
Vcc2
Vcc1
VFB1
SIN
GND9
SO1
SO2
CLM
VCLM
GND4
KNP
INJECT
SDATA
SCK
CCD

4.16 CCD CIRCUIT BOARD

FOIL SIDE
(B)


R134
R133
C142
R135
R136
R137
R138
C143
R145
40
41
21
20
IC101
C147
R144
C146
C148
TP104
R146
R147
D107
R143
60
61
80
R148
C151
C132
R149
R160
R159
R158
R157
R156
R155
R154
R153
R152
C134
C149
3
1
IC104
4
TP107
20
11
19
C133
C131
R127
C135
R128
IC103
TP105
TP106
10
Q106
R126
CN101
C101
D106
C130
R125
R111
TP101
R110
R112
R113
Q103
C129
L101
D102
C109
R124
R123
R122
Q105
C128
E
36
18
D103
C107
C126
L102
R120
C127
R121
TRAP 101
TP102
R117
12
13
1
48
IC102
C118
CCD PWB
YB20672
24
25
36
R119
C122
R118
TP103
C121
5
4
3
2
1
C
B
A

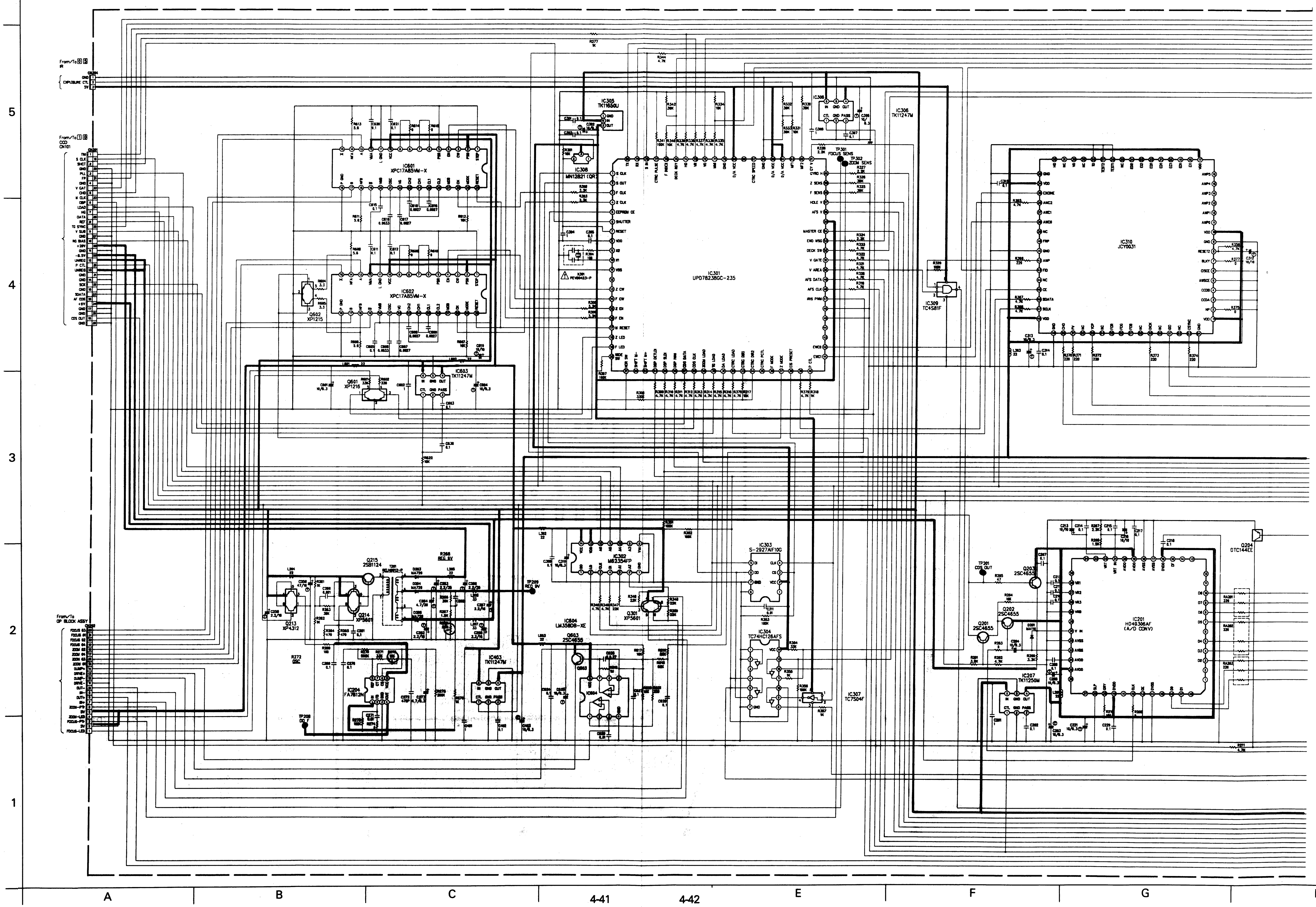
COMPONENT SIDE
(A)


CCD PWB
X101
YB20672
C145
C144
R140
R141
R139
C137
C138
R161
L103
R151
R130
R132
R131
C140
C141
R150
C139
R129
16
9
CN102
1
8
C110
R114
C136
C111
C112
Q104
R115
C114
C113
C108
C102
C115
C117
C124
C125
R109
C105
R101
R116
R106
C106
C116
C123
R107
Q102
R103
R105
Q101
D101
R108
R102
R104
C150
C120
C104
C103
C119
5
4
3
2
1
A
B
C

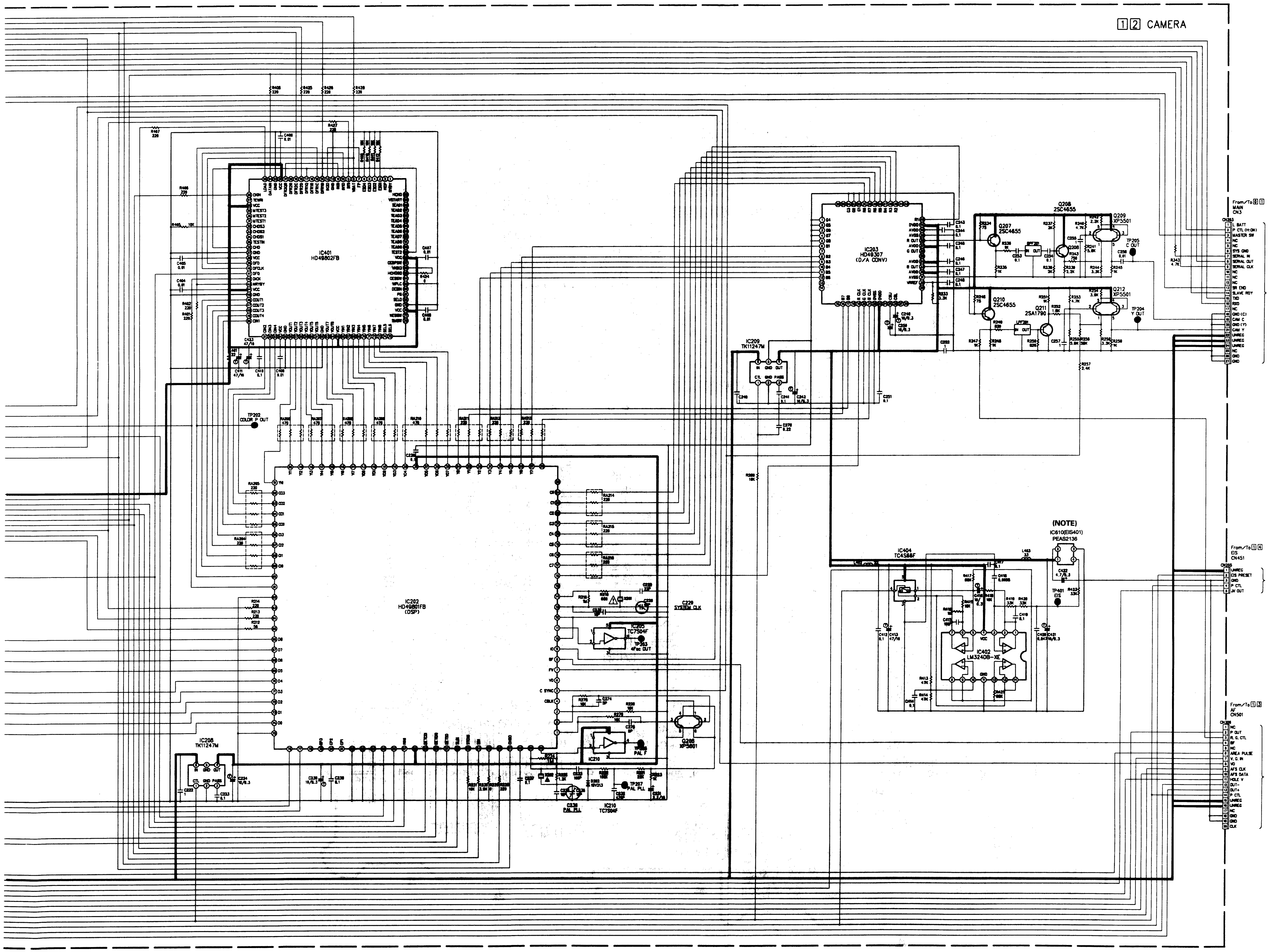
PARTS LOCATION GUIDE ⟨CCD BOARD⟩

REF. NO.	LOCATION
IC	
IC101	B-5B
IC102	B-2B
IC103	B-3B
IC104	B-4B
REF. NO.	LOCATION
TRANSISTOR	
Q101	A-2C
Q102	A-2C
Q103	B-3B
Q104	A-2B
Q105	B-2A
Q106	B-3B
REF. NO.	LOCATION
DIODE	
D101	A-2C
D102	B-3B
D103	B-2C
D106	B-3B
D107	B-4A
REF. NO.	LOCATION
RESISTOR	
R101	A-2C
R102	A-2C
R103	A-2C
R104	A-2C
R105	A-2C
R106	A-2C
R107	A-2B
R108	A-2C
R109	A-2C
R110	B-3B
R111	B-3B
R112	B-3B
R113	B-3B
R114	A-3A
R115	A-2B
R116	A-2C
R117	B-2C
R118	B-1B
R119	B-1B
R120	B-2B
R121	B-2B
R122	B-2B
R123	B-3B
R124	B-3B
R125	B-3B
R126	B-3B
R127	B-3B
R128	B-3B
R129	A-4B
R130	A-5B
R131	A-5B
R132	A-5B
R133	B-5C
R134	B-5C
R135	B-5B
R136	B-5B
R137	B-5B
R138	B-5B
R139	A-5B
R140	A-5B
R141	A-5B
R143	B-4A
R144	B-5A
R145	B-5B
R146	B-4B
R147	B-4B
R148	B-4B
R149	B-4A
R150	A-4B
R151	A-5B
R152	B-4B
R153	B-4B
R154	B-4B
R155	B-4B
R156	B-4B
R157	B-4B
R158	B-4C
R159	B-4C
R160	B-4C
R161	A-5B
REF. NO.	LOCATION
CAPACITOR	
C101	B-3C
C102	A-2C
C103	A-2C
C104	A-1B
C105	A-2C
C106	A-2C
C107	B-2C
C108	A-2C
C109	B-3B
C110	A-3A
C111	A-3B
C112	A-3B
C113	A-2C
C114	A-2C
C115	A-2B
C116	A-2B
C117	A-2B
C118	B-2A
C119	A-1B
C120	A-2B
C121	B-1B
C122	B-1B
C123	A-2B
C124	A-2B
C125	A-2B
C126	B-2C
C127	B-2B
C128	B-2B
C129	B-3B
C130	B-3B
C131	B-4B
C132	B-4A
C133	B-4B
C134	B-4B
C135	B-3B
C136	A-3A
C137	A-5C
C138	A-5C
C139	A-4B
C140	A-5B
C141	A-5C
C142	B-5B
C143	B-5B
C144	A-5B
C146	B-5B
C147	B-5B
C148	B-5B
C149	B-4B
C150	A-2B
C151	B-4B
REF. NO.	LOCATION
COIL	
L101	B-3C
L102	B-2B
L103	A-5A
REF. NO.	LOCATION
TRAP	
TRAP101	B-2B
REF. NO.	LOCATION
RESONATOR	
X101	A-5B
REF. NO.	LOCATION
CONNECTOR	
CN101	B-3C
CN102	A-4B
REF. NO.	LOCATION
TEST PIN	
TP101	B-3A
TP102	B-2C
TP103	B-1B
TP104	B-5A
TP105	B-3A
TP106	B-3C
TP107	B-4A
REF. NO.	LOCATION
ADUSTMENT	
C145	A-5B

4.17 CAMERA SCHEMATIC DIAGRAM


6
5
4
3
2
1
A
B
C
D
E
F
G
H
From/To IR
CN304
GND
EXPOSURE CTL
5V
From/To CCD CN101
CN301
From/To OP BLOCK ASSY
CN302
IC601 XPC17A85VM-X
IC602 XPC17A85VM-X
Q602 XP1215
Q601 XP1216
IC603 TK11247M
IC305 TK11650U
IC308 MN12821(QR)
X301 PEV80423-P
IC301 UPD78238GC-235
IC306 TK11247M
TP301 FOCUS SENS
TP302 ZOOM SENS
IC309 TC4S81F
IC310 JCY0031
Q215 2SB1124
Q213 XP4312
Q214 XP5601
R268 REC 5V
TP299 REC 9V
R272 OSC
IC204 FA7612N
TP208 DD F
IC463 TK11247M
IC604 LM358DB-XE
Q603 2SC4656
IC302 M62354FP
Q301 XP5601
IC303 S-2927AIF10G
IC304 TC74HC126AFS
IC307 TC7S04F
TP201 CDS OUT
Q203 2SC4655
Q202 2SC4655
Q201 2SC4655
IC207 TK11250M
IC201 HD49306AF (A/D CONV)
Q204 DTC144EE

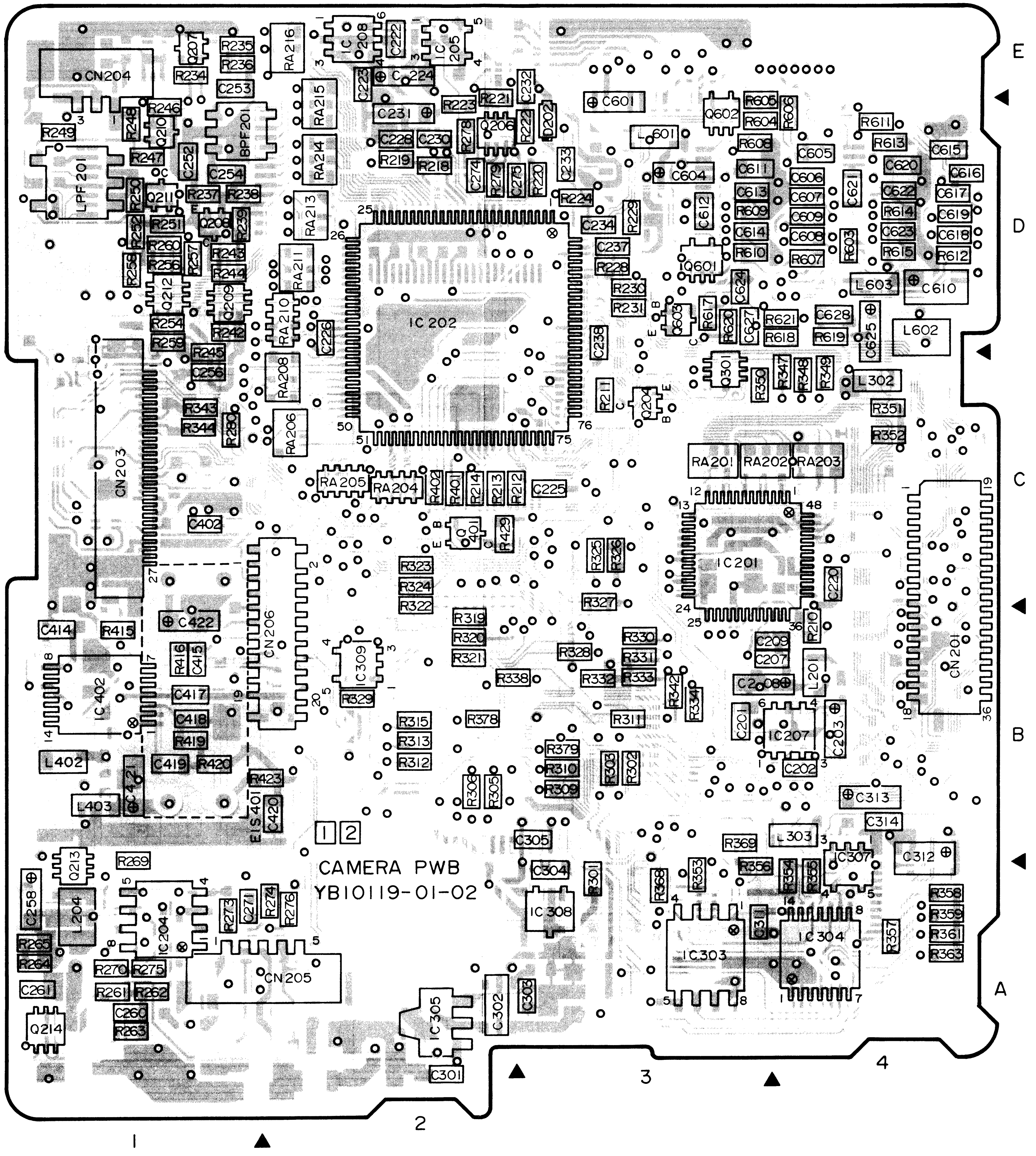
(NOTE) Please refer to the page 1-12 and Page 3-11 about handling and replacement.



1 2 CAMERA
IC401 HD49802FB
IC202 HD49801FB (DSP)
IC203 HD49307 (D/A CONV)
IC209 TK11247M
IC208 TK11247M
IC205 TC7S04F
IC210 TC7S04F
Q206 XP5601
IC404 TC4S66F
IC402 LM324DB-XE
(NOTE) IC610(EIS401) PEAS2136
TP401 EIS
Q207 2SC4655
Q208 2SC4655
Q209 XP5501
Q210 2SC4655
Q211 2SA1790
Q212 XP5501
TP205 C OUT
TP204 Y OUT
TP202 COLOR P OUT
TP203 4Fsc OUT
TP206 PAL F
TP207 PAL PLL
C229 SYSTEM CLK
C238 PAL PLL
From/To 0 1 MAIN CN3
CN203
1 L BATT
2 P CTL (H:ON)
3 MASTER SW
4 NC
5 NC
6 SYS GND
7 SERIAL IN
8 SERIAL OUT
9 SERIAL CLK
10 NC
11 NC
12 NC
13 SR END
14 SLAVE RDY
15 TXD
16 RXD
17 NC
18 GND (C)
19 CAM C
20 GND (Y)
21 CAM Y
22 UNREG
23 UNREG
24 UNREG
25 NC
26 GND
27 GND
From/To 1 4 EIS CN451
CN205
1 UNREG
2 EIS PRESET
3 GND
4 P CTL
5 JV OUT
From/To 1 3 AF CN501
CN206
1 NC
2 P OUT
3 R. G. CTL
4 BF
5 NC
6 AREA PULSE
7 V. G. IN
8 VD
9 AFS CLK
10 AFS DATA
11 HOLE V
12 OUT-
13 OUT+
14 P CTL
15 UNREG
16 UNREG
17 NC
18 GND
19 GND
20 CLK

4.18 CAMERA CIRCUIT BOARD

FOIL SIDE (B)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D
C
B
A
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4
CN204
R249
LPF201
R234
R235
R236
Q207
R246
R248
Q210
BPF201
C253
R247
R252
C254
Q211
R237
R238
RA216
RA215
RA214
RA213
RA211
RA210
RA208
RA206
IC208
C222
C223
C224
IC205
C231
C228
C230
R219
R218
R223
R221
R232
Q206
R222
D202
R278
C274
R279
R273
R220
C233
R224
C601
L601
Q602
R605
R606
R604
R608
C604
C611
C605
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C615
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C617
C622
C619
R614
C618
C623
R615
R612
C621
R603
L603
C610
L602
C612
Q601
C624
R617
R620
C627
R621
C628
R618
R619
C625
Q603
Q301
R350
R347
R348
R349
L302
R351
R352
IC202
C234
R229
C237
R228
R230
R231
C235
R211
Q204
R250
R251
R260
R256
R257
R258
Q209
R239
R243
R244
Q212
R254
R259
R242
R245
C256
C226
R343
R344
R280
CN203
C402
RA205
RA204
R402
R401
R214
R213
R212
C225
Q401
R429
RA201
RA202
RA203
IC201
C220
R210
C209
C207
C208
L201
CN201
R323
R324
R322
R325
R326
R327
R319
R320
R321
R328
R330
R331
R332
R333
R342
R334
R338
IC309
R329
CN206
C414
R415
C422
R416
C415
IC402
C417
C418
R419
L402
C419
R420
C421
L403
R423
EIS401
C420
R315
R313
R312
R378
R379
R310
R309
R308
R302
R311
R306
R305
C201
IC207
C203
C202
C313
C314
L303
R369
IC307
C312
R356
R354
R355
R353
R358
R359
R361
R363
R357
R368
C311
IC303
IC304
C305
C304
R301
IC308
IC305
C302
C303
C301
1 2
CAMERA PWB
YB10119-01-02
Q213
R269
C258
L204
R265
R264
C261
Q214
IC204
R273
C271
R274
R276
R270
R275
R261
R262
C260
R263
CN205

PARTS LOCATION GUIDE <CAMERA BOARD>

REF. NO.	LOCATION	D204	A-1A	R259	B-1D	R337	A-3B	R413	A-1B	REF. NO.	LOCATION
IC		D205	A-1A	R260	B-1D	R338	B-2B	R414	A-1B	CAPACITOR	
IC201	B-3C	REF. NO.	LOCATION	R261	B-1A	R339	A-3B	R415	B-1B	C201	B-3B
IC202	B-2D	RESISTOR		R262	B-1A	R340	A-3B	R416	B-1B	C202	B-4B
IC203	A-1D	R201	A-4B	R263	B-1A	R341	A-3B	R417	A-1B	C203	B-4B
IC204	B-1A	R202	A-4B	R264	B-1A	R342	B-3B	R418	A-1B	C204	A-4B
IC205	B-2E	R203	A-4B	R265	B-1A	R343	B-1C	R419	B-1B	C206	A-4B
IC207	B-4B	R204	A-4B	R266	A-1A	R344	B-1C	R420	B-1B	C207	B-3B
IC208	B-2E	R205	A-4B	R267	A-1A	R345	A-3C	R421	A-1B	C208	B-3B
IC209	A-1D	R206	A-4B	R269	B-1B	R346	A-3C	R423	B-1B	C209	B-3B
IC210	A-3D	R207	A-3C	R270	B-1A	R347	B-4C	R424	A-2D	C210	A-4B
IC301	A-3B	R208	A-3C	R271	A-1A	R348	B-4C	R425	A-3C	C211	A-4B
IC302	A-3C	R209	A-4C	R273	B-1A	R349	B-4C	R426	A-3D	C212	A-3B
IC303	B-3A	R210	B-4B	R274	B-2A	R350	B-3C	R427	A-3D	C213	A-3C
IC304	B-4A	R211	B-3C	R275	B-1A	R351	B-4C	R428	A-3D	C214	A-3B
IC305	B-2A	R212	B-2C	R276	B-2A	R352	B-4C	R429	B-2C	C215	A-3C
IC306	A-2A	R213	B-2C	R277	A-3C	R353	B-3A	R601	A-3D	C216	A-4C
IC307	B-4B	R214	B-2C	R278	B-2D	R354	B-4A	R602	A-3D	C217	A-3C
IC308	B-3A	R218	B-2D	R279	B-2D	R355	B-4A	R603	B-4D	C218	A-3C
IC309	B-2B	R219	B-2D	R280	B-1C	R356	B-3A	R604	B-3D	C219	A-4C
IC310	A-4A	R220	B-3D	R301	B-3A	R357	B-4A	R605	B-3D	C220	B-4C
IC401	A-2C	R221	B-2D	R302	B-3B	R358	B-4A	R606	B-4D	C221	A-4B
IC402	B-1B	R222	B-2D	R303	B-3B	R359	B-4A	R607	B-4D	C222	B-2E
IC403	A-1C	R223	B-2D	R304	A-3A	R360	A-4A	R608	B-3D	C223	B-2E
IC404	A-2B	R224	B-3D	R305	B-2B	R361	B-4A	R609	B-3D	C224	B-2E
IC601	A-4D	R225	A-3D	R306	B-2B	R362	A-4A	R610	B-3D	C225	B-3C
IC602	A-3D	R228	B-3D	R307	A-2A	R363	B-4A	R611	B-4D	C226	B-2D
IC603	A-3D	R229	B-3D	R308	A-2B	R364	A-4A	R612	B-4D	C228	B-2D
IC604	A-4D	R230	B-3D	R309	B-3B	R365	A-3A	R613	B-4D	C230	B-2D
IC610	A-1B	R231	B-3D	R310	B-3B	R366	A-3A	R614	B-4D	C231	B-2D
REF. NO.	LOCATION	R233	A-1E	R311	B-3B	R367	A-3A	R615	B-4D	C232	B-3E
TRANSISTOR		R234	B-1E	R312	B-2B	R368	B-3A	R616	A-3D	C233	B-3D
Q201	A-4B	R235	B-1E	R313	B-2B	R369	B-3B	R617	B-3D	C234	B-3D
Q202	A-4B	R236	B-1E	R314	A-2B	R370	A-3B	R618	B-4D	C235	A-2E
Q203	A-4B	R237	B-1D	R315	B-2B	R371	A-3B	R619	B-4D	C237	B-3D
Q204	B-3C	R238	B-1D	R316	A-2B	R372	A-3B	R620	B-3D	C238	B-3D
Q206	B-2D	R239	B-1D	R317	A-2B	R373	A-4B	R621	B-4D	C239	A-2D
Q207	B-1E	R240	A-1D	R318	A-2B	R374	A-4B	R622	A-3D	C240	A-1D
Q208	B-1D	R241	A-1D	R319	B-2B	R375	A-4A	REF. NO.	LOCATION	C241	A-1D
Q209	B-1D	R242	B-1D	R320	B-2B	R376	A-4A	RESISTOR ARRAY		C242	A-1D
Q210	B-1D	R243	B-1D	R321	B-2B	R377	A-4A	RA201	B-3C	C243	A-1E
Q211	B-1D	R244	B-1D	R322	B-2C	R378	B-2B	RA202	B-3C	C244	A-1E
Q212	B-1D	R245	B-1D	R323	B-2C	R379	B-3B	RA203	B-4C	C245	A-1E
Q213	B-1A	R246	B-1D	R324	B-2C	R380	A-1C	RA204	B-2C	C246	A-1E
Q214	B-1A	R247	B-1D	R325	B-3C	R401	B-2C	RA205	B-2C	C247	A-1E
Q215	A-1A	R248	B-1D	R326	B-3C	R402	B-2C	RA206	B-2C	C248	A-1E
Q301	B-3C	R249	B-1D	R327	B-3C	R403	A-2C	RA207	A-2C	C249	A-1D
Q401	B-2C	R250	B-1D	R328	B-3B	R404	A-2C	RA208	B-2C	C250	A-1D
Q601	B-3D	R251	B-1D	R329	B-2B	R405	A-3C	RA209	A-2D	C251	A-1D
Q602	B-3D	R252	B-1D	R330	B-3B	R406	A-3C	RA210	B-2D	C252	B-1D
Q603	B-3D	R253	A-1D	R331	B-3B	R407	A-3C	RA211	B-2D	C253	B-1E
REF. NO.	LOCATION	R254	B-1D	R332	B-3B	R408	A-3C	RA212	A-2D	C254	B-1D
DIODE		R255	A-1D	R333	B-3B	R409	A-3D	RA213	B-2D	C255	A-1D
D201	A-3B	R256	B-1D	R334	B-3B	R410	A-3D	RA214	B-2D	C256	B-1C
D202	B-3D	R257	B-1D	R335	A-3B	R411	A-3D	RA215	B-2D	C257	A-1D
D203	A-1A	R258	B-1D	R336	A-3B	R412	A-3D	RA216	B-2E	C258	B-1A

C259	A-1A
C260	B-1A
C261	B-1A
C262	A-1A
C263	A-2A
C264	A-2A
C265	A-1A
C266	A-2A
C267	A-2A
C268	A-2A
C269	A-1A
C270	A-1A
C271	B-1A
C272	A-1A
C273	A-1A
C274	B-2D
C275	B-2D
C276	A-1D
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C302	B-2A
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C406	A-3C
C407	A-2D
C408	A-2D
C409	A-2C
C410	A-2C
C411	A-1C
C412	A-1B
C413	A-1B
C414	B-1B
C415	B-1B
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C420	B-2B
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C623	B-4D
C624	B-3D
C625	B-4D
C626	A-3D
C627	B-3D
C628	B-4D
C629	A-4D
C630	A-3D

REF. NO.	LOCATION
COIL	
L201	B-4B
L204	B-1A
L205	A-2A
L206	A-2A
L207	A-2A
L302	B-4C
L303	B-4B
L401	A-1C
L402	B-1B
L403	B-1B
L601	B-3D
L602	B-4D
L603	B-4D
T201	A-1A

REF. NO.	LOCATION
LPF	
LPF201	B-1D

REF. NO.	LOCATION
BPF	
BPF201	B-1D

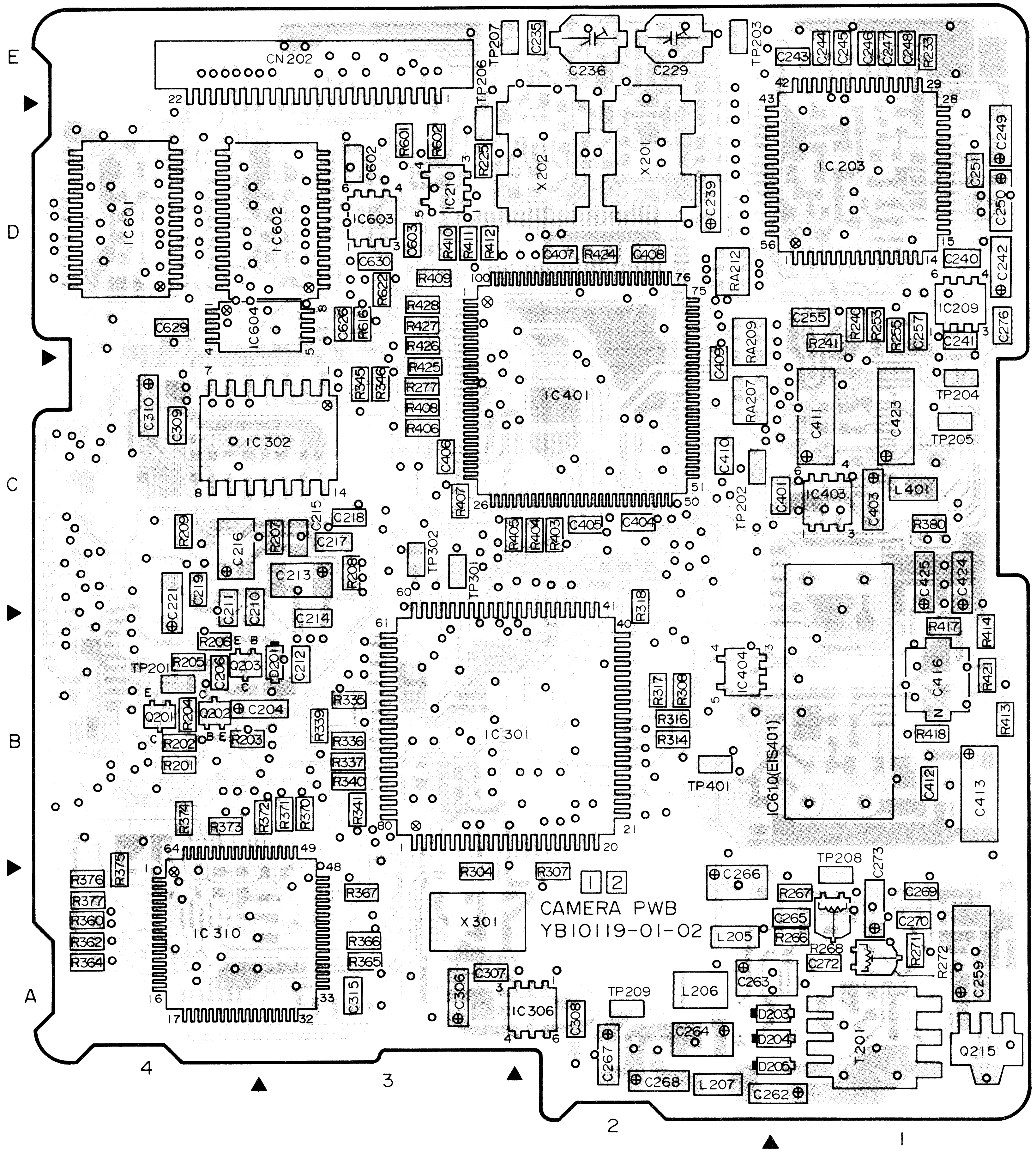
REF. NO.	LOCATION
RESONATOR	
X201	A-2D
X202	A-2D
X301	A-3A

REF. NO.	LOCATION
CONNECTOR	
CN201	B-4B
CN202	A-3E
CN203	B-1C
CN204	B-1E
CN205	B-2A
CN206	B-2B

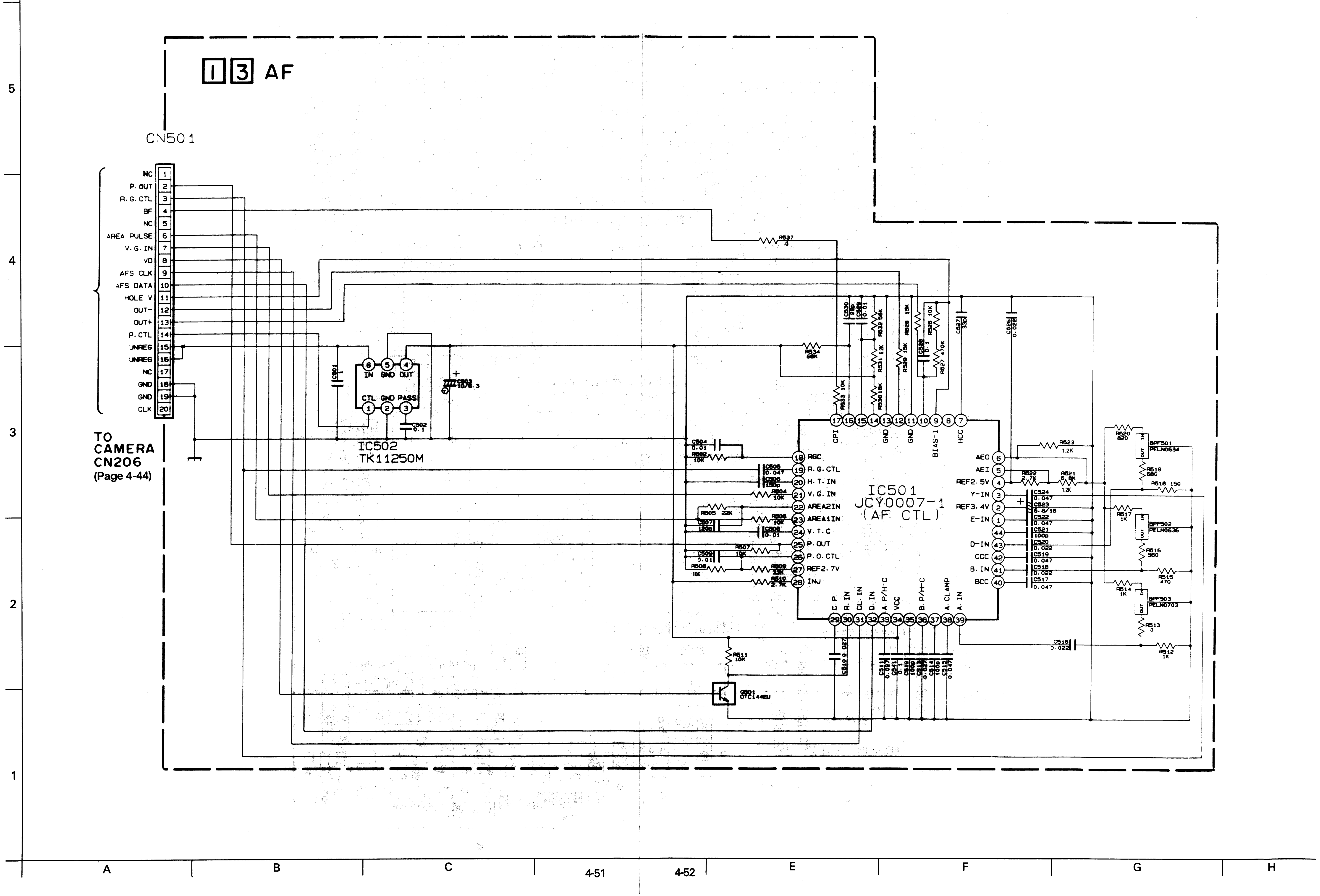
REF. NO.	LOCATION
TP201	A-4B
TP202	A-2C
TP203	A-2E
TP204	A-1C
TP205	A-1C
TP206	A-3D
TP207	A-3E
TP208	A-1A
TP209	A-2A
TP301	A-3C
TP302	A-3C
TP401	A-2B

REF. NO.	LOCATION
ADJUSTMENT	
R268	A-1A
R272	A-1A
C229	A-2E
C236	A-2E

COMPONENT SIDE (A)


CAMERA PWB
YB10119-01-02
IC401
IC301
IC203
IC601
IC602
IC302
IC310
IC610(EIS401)
X201
X202
X301
CN202
T201
Q215
E
D
C
B
A
4
3
2
1

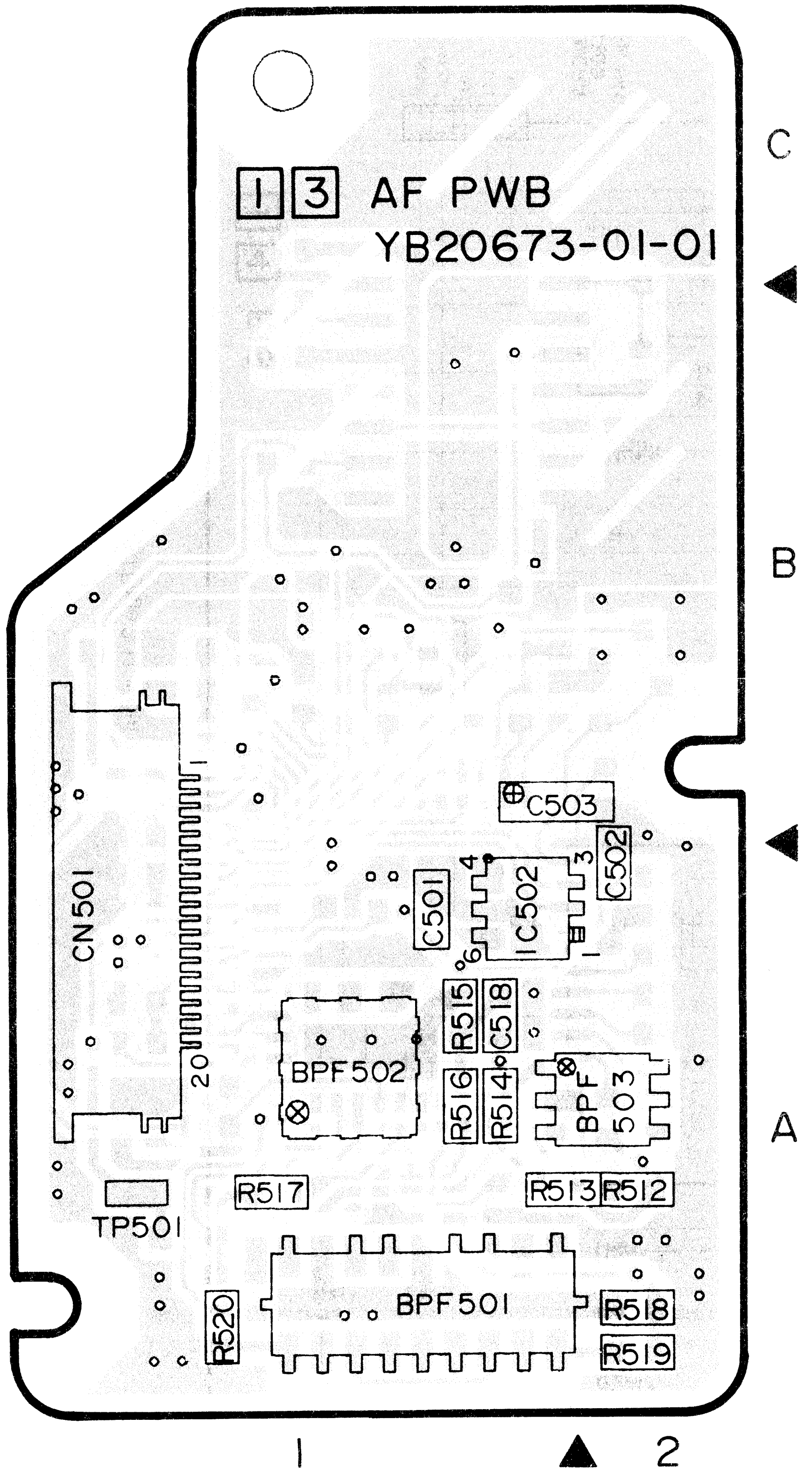
4.19 AF SCHEMATIC DIAGRAM



6
5
4
3
2
1
13 AF
CN501
NC 1
P. OUT 2
R. G. CTL 3
BF 4
NC 5
AREA PULSE 6
V. G. IN 7
VD 8
AFS CLK 9
AFS DATA 10
HOLE V 11
OUT− 12
OUT+ 13
P. CTL 14
UNREG 15
UNREG 16
NC 17
GND 18
GND 19
CLK 20
TO CAMERA CN206 (Page 4-44)
IC502
TK11250M
IN GND OUT
CTL GND PASS
C501
C502 0.1
C503 10/6.3
R537 0
R534 68K
R533 10K
C530 24p
C529 0.01
R532 56K
R531 6.2K
R530 18K
R528 15K
R529 15K
R525 10K
C528 0.1
R527 470K
C527 33p
C526 0.022
IC501
JCY0007-1
(AF CTL)
CPI
GND
GND
BIAS-I
HCC
RGC
R. G. CTL
H. T. IN
V. G. IN
AREA2IN
AREA1IN
V. T. C
P. OUT
P. O. CTL
REF2. 7V
INJ
AED
AEI
REF2. 5V
Y-IN
REF3. 4V
E-IN
D-IN
CCC
B. IN
BCC
C. P
R. IN
CL. IN
D. IN
A. P/H-C
VCC
B. P/H-C
A. CLAMP
A. IN
C504 0.01
R502 10K
C505 0.047
C506 150p
R504 10K
R505 22K
C507 120p
R506 10K
C508 0.01
C509 0.01
R507 10K
R508 10K
R509 33K
R510 2.7K
R523 1.2K
R522 2.7K
R521 6.8K 1.2K
C524 0.047
C523 6.8/16
C522 0.047
C521 100p
C520 0.022
C519 0.047
C518 0.022
C517 0.047
R520 820
BPF501 PELN0634
R519 680
R518 150
R517 1K
BPF502 PELN0636
R516 560
R515 470
R514 1K
BPF503 PELN0703
R513 0
R512 1K
C516 0.022
R511 10K
Q501 DTC144EU
C510 0.027
C511 0.027
C541 0.1
C512 100p
C513 0.027
C514 100p
C515 0.047
A
B
C
E
F
G
H

4.20 AF CIRCUIT BOARD

FOIL SIDE (B)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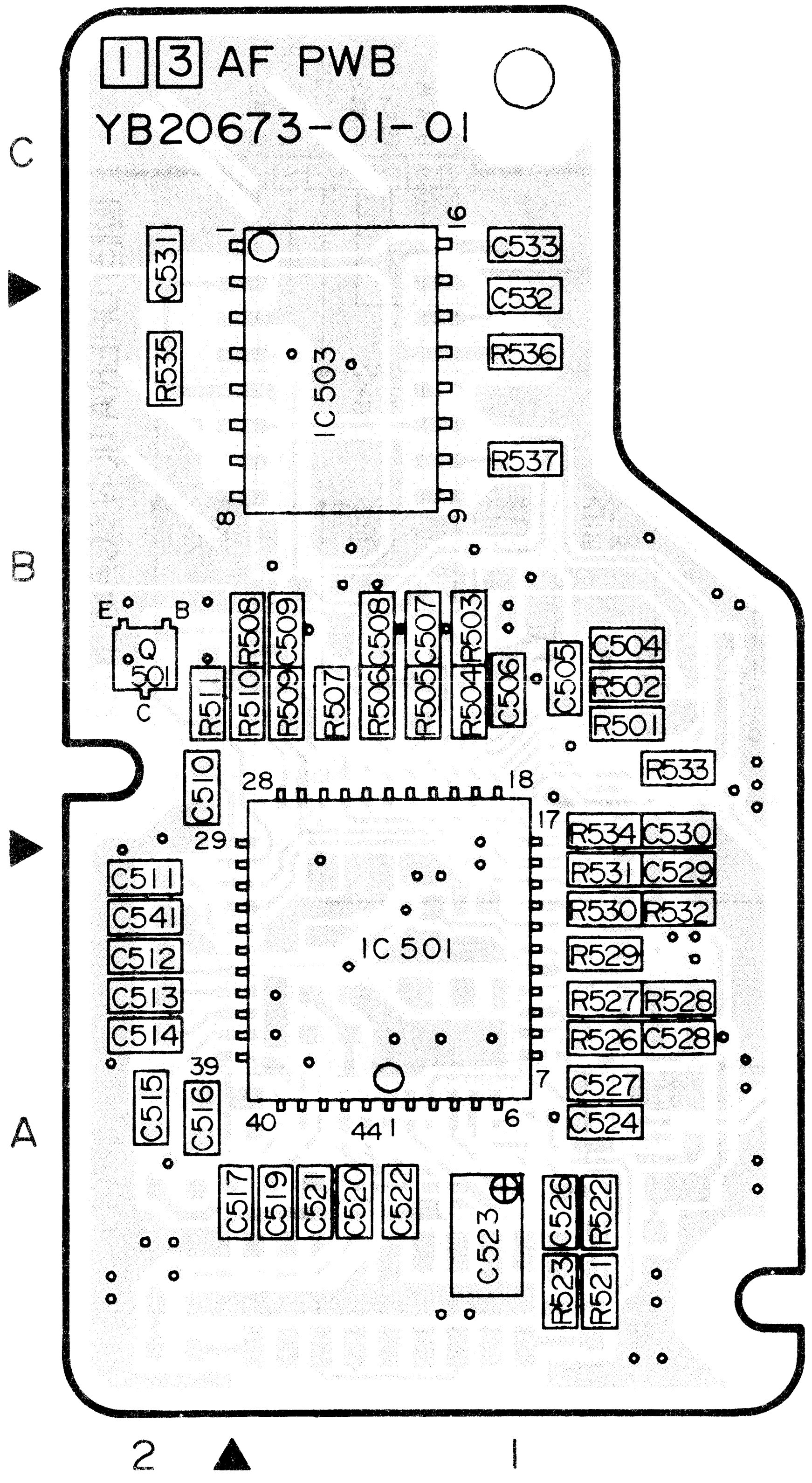
YB20673-01-01
C
B
A
1
2
CN501
20
1
C503
C502
C501
IC502
4
3
6
1
BPF502
R515
C518
R516
R514
BPF 503
R517
R513
R512
TP501
BPF501
R520
R518
R519

COMPONENT SIDE (A)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YB20673-01-01
C
B
A
2
1
C531
R535
IC 503
1
16
8
9
C533
C532
R536
R537
E
B
C
Q 501
R511
R510
R508
R509
C509
R507
R506
C508
R505
C507
R504
R503
C506
C505
C504
R502
R501
R533
C510
28
18
17
29
39
40
44
6
7
IC 501
C511
C541
C512
C513
C514
C515
C516
R534
C530
R531
C529
R530
R532
R529
R527
R528
R526
C528
C527
C524
C517
C519
C521
C520
C522
C523
C526
R522
R523
R521

PARTS LOCATION GUIDE ‹AF BOARD›

REF. NO.	LOCATION
IC	
IC501	A-1A
IC502	B-1A
IC503	A-1B
REF. NO.	LOCATION
TRANSISTOR	
Q101	A-2B
REF. NO.	LOCATION
RESISTOR	
R501	A-1B
R502	A-1B
R503	A-1B
R504	A-1B
R505	A-1B
R506	A-1B
R507	A-1B
R508	A-1B
R509	A-1B
R510	A-1B
R511	A-2B
R512	B-2A
R513	B-1A
R514	B-1A
R515	B-1A
R516	B-1A
R517	B-1A
R518	B-2A
R519	B-2A
R520	B-1A
R521	A-1A
R522	A-1A
R523	A-1A
R526	A-1A
R527	A-1A
R528	A-1A
R529	A-1A
R530	A-1A
R531	A-1A
R532	A-1A
R533	A-1B
R534	A-1B
R535	A-2B
R536	A-1B
R537	A-1B
REF. NO.	LOCATION
CAPACITOR	
C501	B-1A
C502	B-2A
C503	B-1B
C504	A-1B
C505	A-1B
C506	A-1B
C507	A-1B
C508	A-1B
C509	A-1B
C510	A-2B
C511	A-2A
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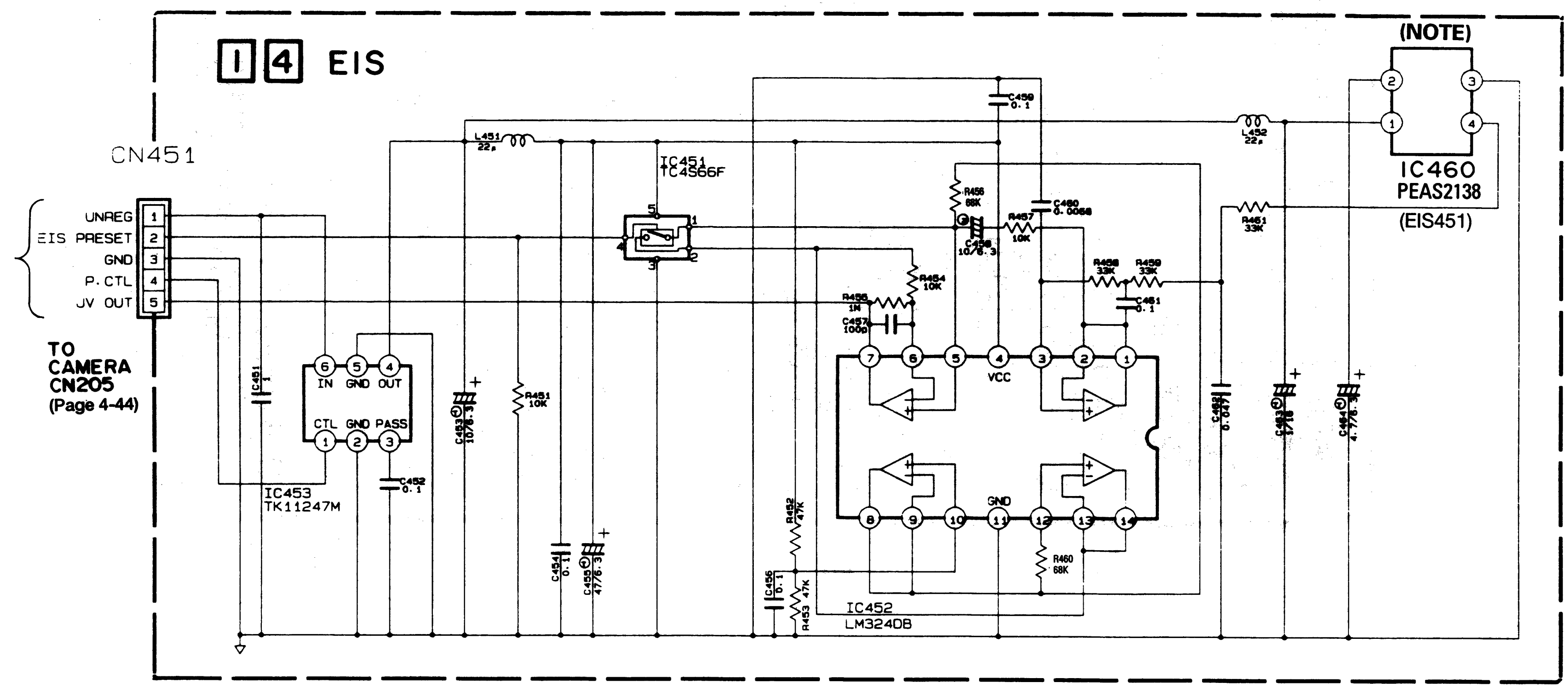
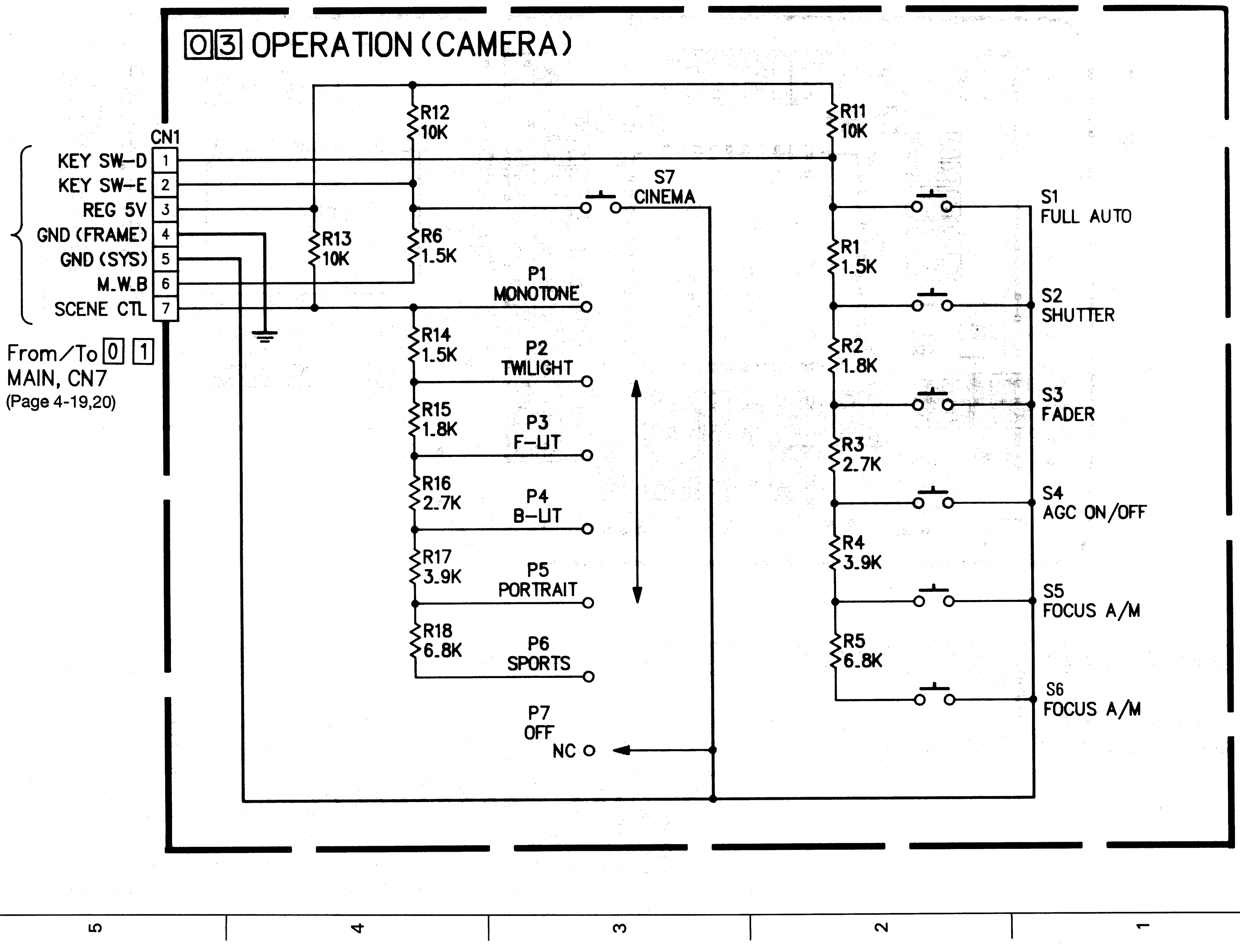
C520	A-1A
C521	A-1A
C522	A-1A
C523	A-1A
C524	A-1A
C526	A-1A
C527	A-1A
C528	A-1A
C529	A-1A
C530	A-1B
C531	A-2C
C532	A-1B
C533	A-1C
C541	A-2A
REF. NO.	LOCATION
BPF	
BPF501	B-1A
BPF502	B-1A
BPF503	B-2A
REF. NO.	LOCATION
CONNECTOR	
CN501	B-1A

(NOTE) Please refer to the page 1-12 and Page 3-11 about handling and replacement.


1 4 EIS
CN451
UNREG 1
EIS PRESET 2
GND 3
P.CTL 4
JV OUT 5
TO CAMERA CN205 (Page 4-44)
(NOTE)
IC460
PEAS2138
(EIS451)
IC451 TC4S66F
IC453 TK11247M
IN GND OUT
CTL GND PASS
IC452 LM324DB
VCC
GND
L451 22μ
L452 22μ
C451 1
C452 0.1
C453 10/6.3
C454 0.1
C455 47/6.3
C456 0.1
C457 100p
C458 10/6.3
C459 0.1
C460 0.0068
C461 0.1
C462 0.047
C463 1/16
C464 4.7/6.3
R451 10K
R452 47K
R453 47K
R454 10K
R455 1M
R456 68K
R457 10K
R458 33K
R459 33K
R460 68K
R461 33K

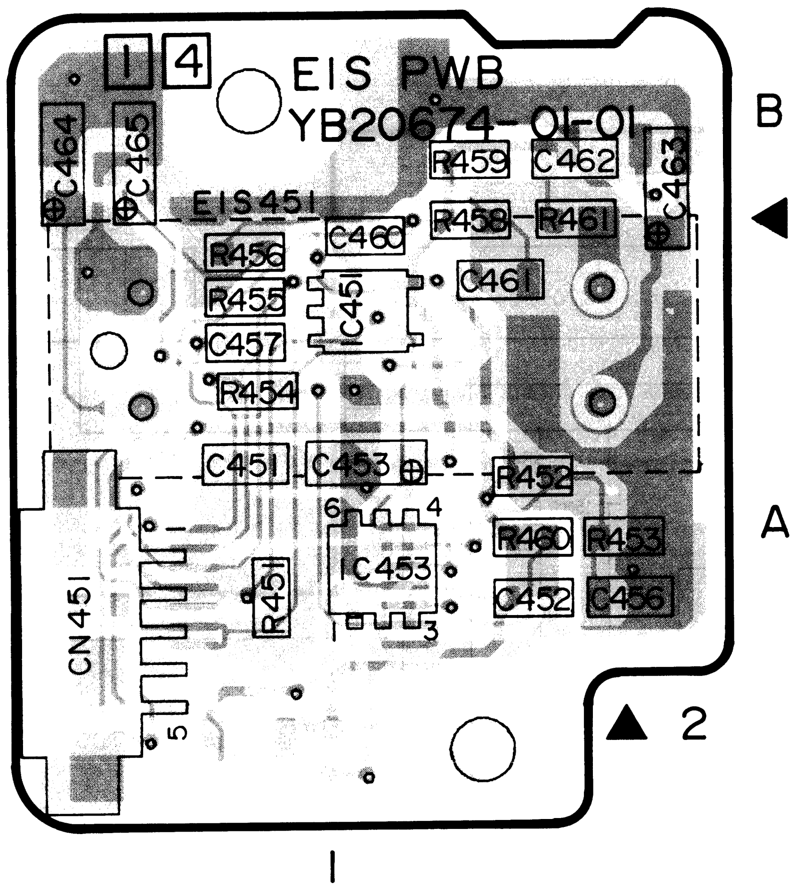
Note: *This schematic diagram is only for reference.*
Avoid replacing individual parts.
Replace the entire unit only.


0 3 OPERATION (CAMERA)
CN1
KEY SW-D 1
KEY SW-E 2
REG 5V 3
GND (FRAME) 4
GND (SYS) 5
M.W.B 6
SCENE CTL 7
From/To 0 1 MAIN, CN7
(Page 4-19,20)
R12 10K
R11 10K
R13 10K
R6 1.5K
R1 1.5K
R2 1.8K
R3 2.7K
R4 3.9K
R5 6.8K
R14 1.5K
R15 1.8K
R16 2.7K
R17 3.9K
R18 6.8K
S7 CINEMA
S1 FULL AUTO
S2 SHUTTER
S3 FADER
S4 AGC ON/OFF
S5 FOCUS A/M
S6 FOCUS A/M
P1 MONOTONE
P2 TWILIGHT
P3 F-LIT
P4 B-LIT
P5 PORTRAIT
P6 SPORTS
P7 OFF
NC

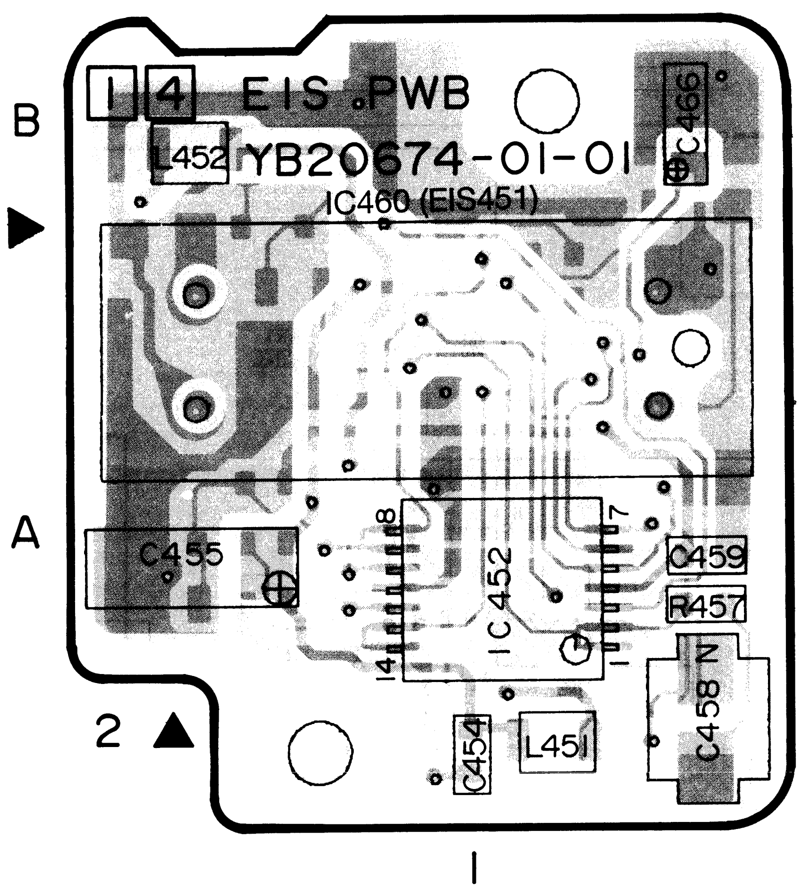
4.22 EIS, IR, TRIGGER AND UPPER DRUM CIRCUIT BOARDS

— EIS —

FOIL SIDE (B)


1 4
EIS PWB
YB20674-01-01
EIS451
C464
C465
R459
C462
C463
C460
R458
R461
R456
R455
IC451
C461
C457
R454
C451
C453
R452
IC453
R460
R453
R451
C452
C456
CN451
5
6
4
3
B
A
2
1

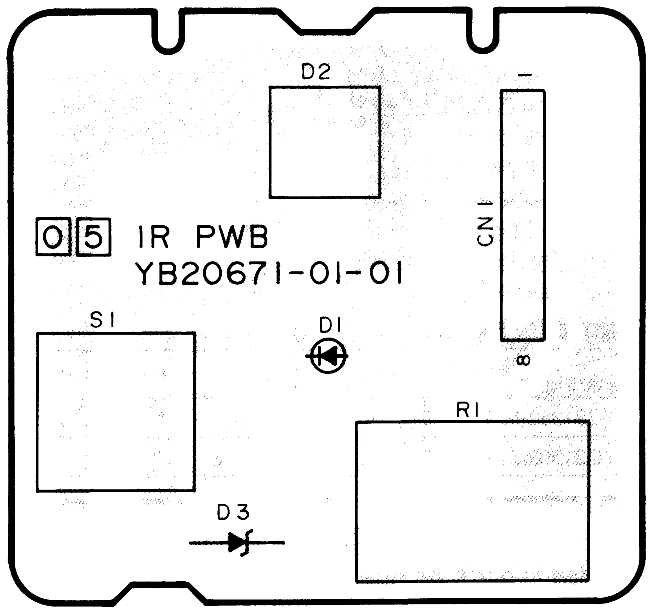
COMPONENT SIDE (A)


1 4
EIS PWB
YB20674-01-01
L452
IC460 (EIS451)
C466
C455
IC452
8
7
14
1
C459
R457
C454
L451
C458
B
A
2
1

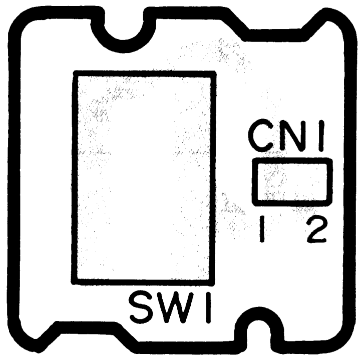
PARTS LOCATION GUIDE ⟨EIS BOARD⟩

REF. NO.	LOCATION
IC	
IC451	B-1A
IC452	A-1A
IC453	B-1A
IC460	A-1A
RESISTOR	
R451	B-1A
R452	B-1A
R453	B-2A
R454	B-1A
R455	B-1A
R456	B-1A
R457	A-1A
R458	B-1A
R459	B-1B
R460	B-1A
R461	B-1A
CAPACITOR	
C451	B-1A
C452	B-1A
C453	B-1A
C454	A-1A
C455	A-2A
C456	B-2A
C457	B-1A
C458	A-1A
C459	A-1A
C460	B-1A
C461	B-1A
C462	B-1B
C463	B-2B
C464	B-1B
C465	B-1B
C466	A-1B
COIL	
L451	A-1A
L452	A-2B
CONNECTOR	
CN451	B-1A

— IR —

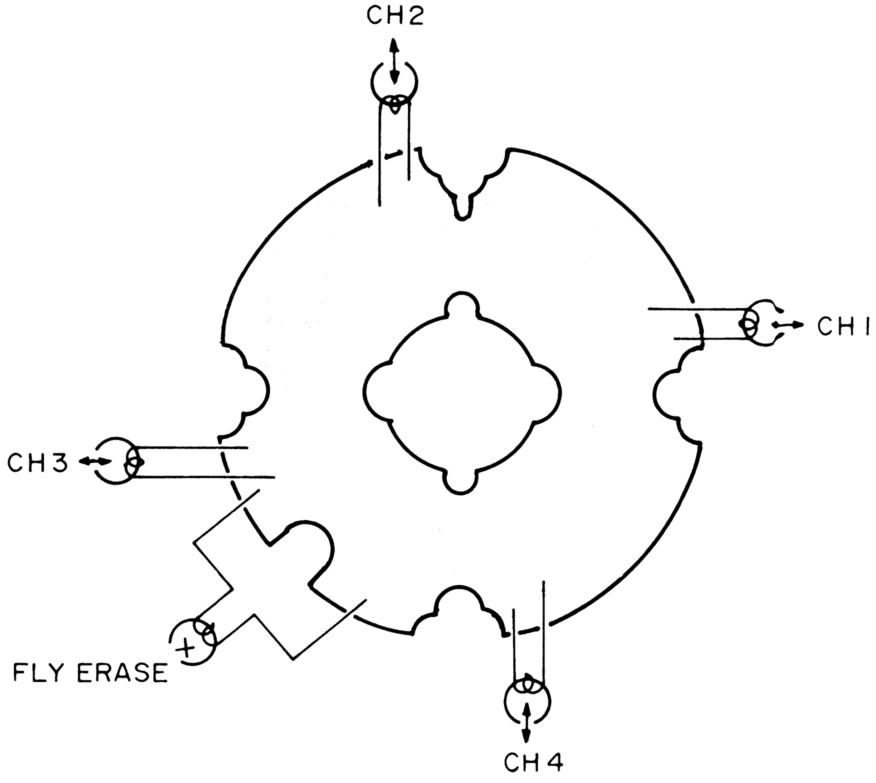

0 5 IR PWB
YB20671-01-01
D2
CN1
1
8
S1
D1
R1
D3

— TRIGGER —



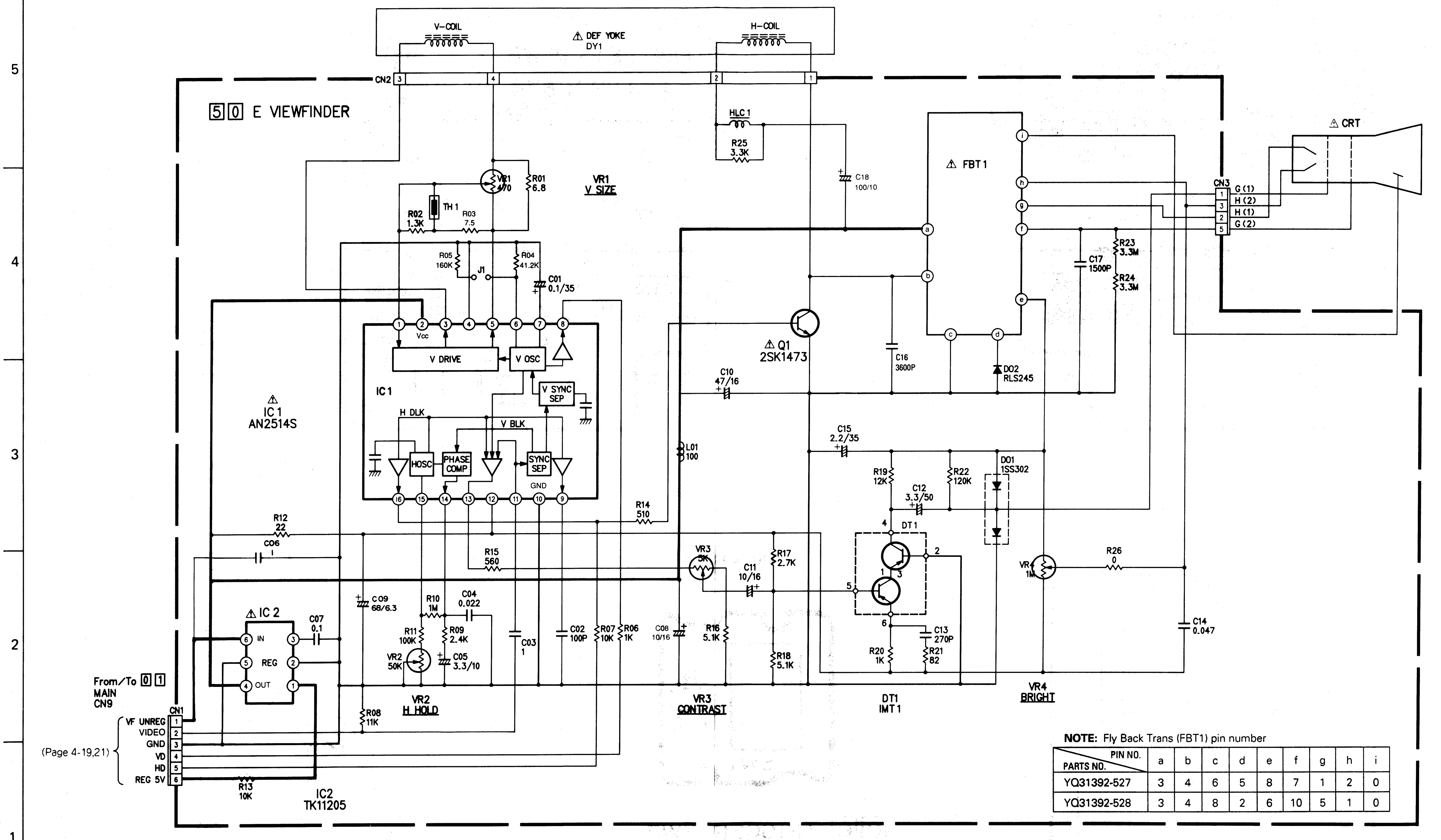
0 6 TRIGGER PWB
YB20644

— UPPER DRUM —


CH2
CH1
CH3
CH4
FLY ERASE

4 0 UPPER DRUM PWB
YDM3073-1-1, EK
YDM3073-2-1, EG

4.23 ELECTRONIC VIEWFINDER SCHEMATIC DIAGRAM


V-COIL
⚠ DEF YOKE
DY1
H-COIL
CN2
50 E VIEWFINDER
HLC1
R25
3.3K
C18
100/10
⚠ FBT1
⚠ CRT
CN3
G (1)
H (2)
H (1)
G (2)
VR1
470
R01
6.8
VR1
V SIZE
TH1
R02
1.3K
R03
7.5
R05
160K
J1
R04
41.2K
C01
0.1/35
R23
3.3M
C17
1500P
R24
3.3M
Vcc
V DRIVE
V OSC
V SYNC
SEP
IC1
H DLK
V BLK
HOSC
PHASE
COMP
SYNC
SEP
GND
⚠
IC1
AN2514S
⚠ Q1
2SK1473
C10
47/16
C16
3600P
D02
RLS245
C15
2.2/35
R19
12K
C12
3.3/50
R22
120K
D01
1SS302
L01
100
R14
510
R12
22
C06
1
R15
560
VR3
5K
C11
10/16
R17
2.7K
DT1
R26
0
VR4
1M
C14
0.047
⚠ IC2
IN
REG
OUT
C07
0.1
C09
68/6.3
R10
1M
C04
0.022
R11
100K
R09
2.4K
VR2
50K
C05
3.3/10
C03
1
C02
100P
R07
10K
R06
1K
C08
10/16
R16
5.1K
C13
270P
R20
1K
R21
82
R18
5.1K
From/To 01
MAIN
CN9
CN1
VF UNREG
VIDEO
GND
VD
HD
REG 5V
(Page 4-19,21)
R08
11K
VR2
H HOLD
VR3
CONTRAST
DT1
IMT1
VR4
BRIGHT
R13
10K
IC2
TK11205
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTE: Fly Back Trans (FBT1) pin number

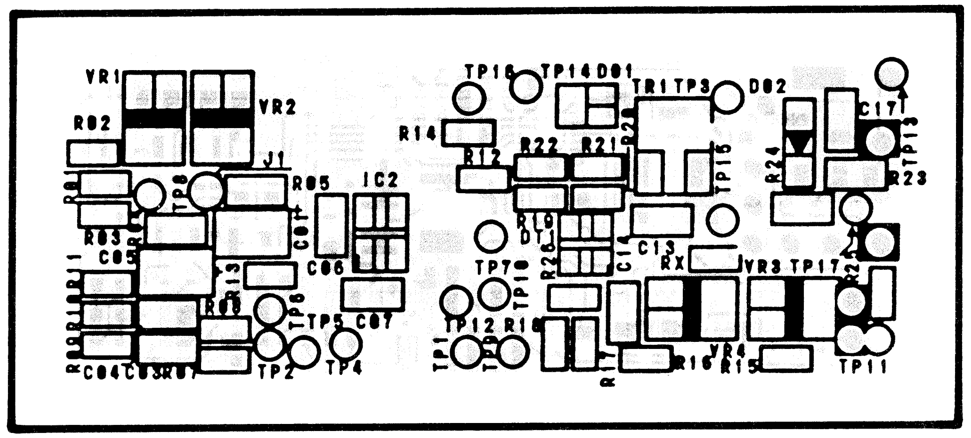
PIN NO. / PARTS NO.	a	b	c	d	e	f	g	h	i
YQ31392-527	3	4	6	5	8	7	1	2	0
YQ31392-528	3	4	8	2	6	10	5	1	0

NOTE : ***When ordering parts, be sure to order according to the Part Number indicated in the Parts List.***

4.24 ELECTRONIC VIEWFINDER CIRCUIT BOARDS

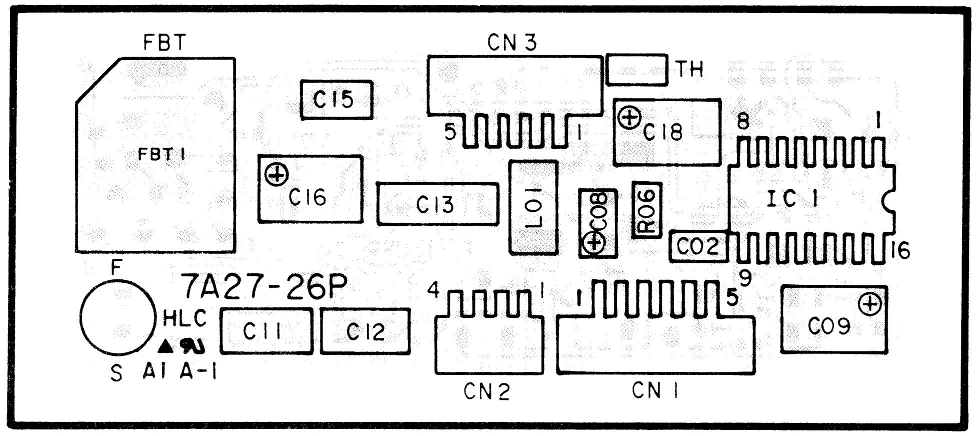
FOIL SIDE (B)

[For 7A27-26P (YQ31392-700) Board]


VR1
VR2
R02
R14
TP16
TP14
D01
TR1
TP3
D02
C17
TP13
R22
R21
R12
R20
TP15
R24
R23
R05
IC2
J1
TP8
R03
C05
C01
C06
R13
R19
DT1
C14
C13
TP7
TP10
R26
RX
VR3
TP17
R08
TP6
TP5
C07
TP12
R18
TP1
C04
C03
R07
TP2
TP4
R17
R16
VR4
R15
TP11

COMPONENT SIDE (A)

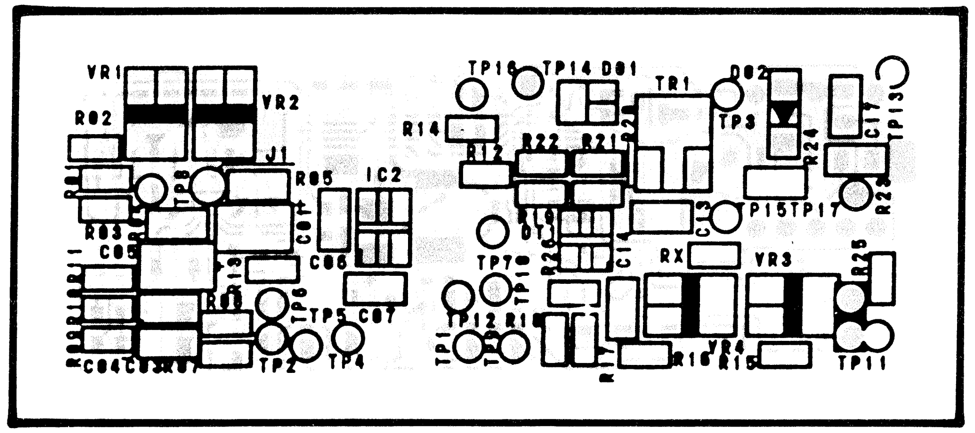
[For 7A27-26P (YQ31392-700) Board]


FBT
CN3
TH
C15
5
1
C18
8
1
FBT1
C16
C13
L01
C08
R06
IC1
C02
16
9
F
7A27-26P
4
1
1
5
HLC
C11
C12
C09
S
A1 A-1
CN2
CN1

NOTE : *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

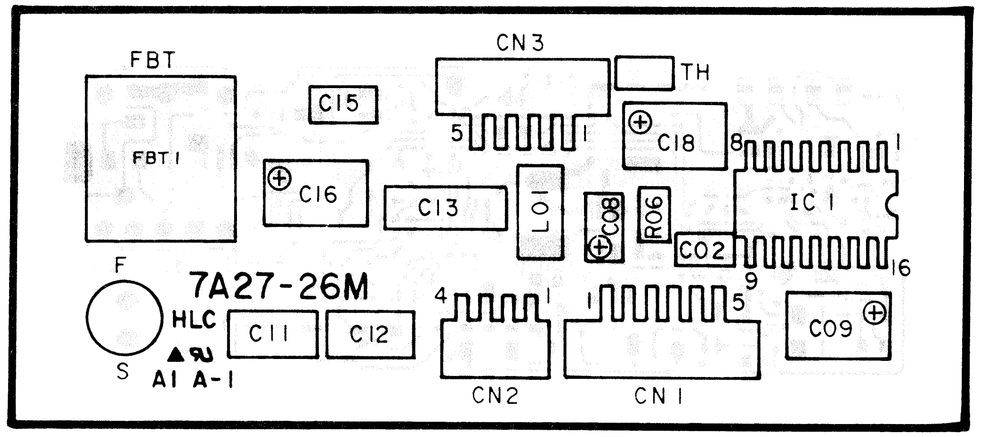
FOIL SIDE (B)

[For 7A27-26M (YQ31392-800) Board]


VR1
VR2
R02
R14
TP16
TP14
D01
TR1
D02
TP3
C17
TP13
R22
R21
R12
R20
R24
R23
R05
IC2
J1
TP8
R03
C05
C01
C06
R13
R19
DT1
C14
C13
TP15
TP17
TP7
TP10
R26
RX
VR3
R25
R08
TP6
TP5
C07
TP12
R18
TP1
C04
C03
R07
TP2
TP4
R17
R16
VR4
R15
TP11

COMPONENT SIDE (A)

[For 7A27-26M (YQ31392-800) Board]


FBT
CN3
TH
C15
5
1
C18
8
1
FBT1
C16
C13
L01
C08
R06
IC1
C02
16
9
F
7A27-26M
4
1
1
5
HLC
C11
C12
C09
S
A1 A-1
CN2
CN1

4.25 VOLTAGE CHARTS

REC: Y/C separator input, color bar SP mode, VHS mode.
PB : Alignment tape, color bar SP mode, VHS mode.

MAIN

MODE/ PIN NO.	REC	PB
IC102		
1	0	0
2	5.0	5.0
3	2.5	2.5
4	0	0
5	2.5	2.5
6	2.5	2.5
7	2.2	2.3
8	5.0	5.0
IC301		
1	0	4.7
2	0	4.7
3	0	0
4	4.7	0
5	0	0
6	0	0
7	0	0
8	4.7	0
9	0	0
10	4.7	4.7
11	0	4.7
12	0	0
13	4.7	0
14	0	0
15	4.7	0
16	4.7	4.8
17	0	0
18	0	0
19	0	5.0
20	5.0	5.0
21	5.0	5.0
22	5.0	4.9
23	4.9	4.9
24	5.0	5.0
25	0	0
26	0	0
27	0	0
28	0	4.7
29	0	0
30	0	0
31	0	0
32	0	0
33	0	4.6
34	0	0
35	1.5	0
36	5.0	5.0
37	0	0
38	1.8	1.9
39	3.1	3.1
40	0	0
41	-	-
42	2.3	0
43	4.1	4.0
44	0	0
45	0	0
46	5.0	5.0
47	0.7	0.3
48	4.8	0
49	4.8	4.8
50	0	0
51	3.2	2.4
52	2.4	2.4
53	4.7	5.0
54	0	0
55	2.6	0
56	0	0
57	0.7	0.4
58	0	0
59	0.7	0.5
60	5.0	5.0
61	0	0
62	0	0.4
63	5.0	0
64	2.2	2.4
65	2.5	2.4
66	2.2	2.5
67	0.4	0
68	0	5.0
69	0	1.2
70	3.5	3.5
71	4.9	5.0
72	4.8	3.7
73	3.7	0
74	0.5	0.5
75	0.5	0.5
76	0.5	0.5
77	1.2	1.2
78	5.0	5.0
79	5.0	5.0
80	5.0	5.0
81	5.0	5.0
82	5.0	5.0
83	5.0	5.0
84	5.0	5.0
85	0	0
86	5.0	5.0
87	0.5	0.5
88	0	0
89	4.7	4.7
90	5.0	5.0
91	4.7	4.7
92	4.8	4.8
93	NC	NC
94	0	0
95	4.7	0
96	4.7	4.7
97	2.4	3.0
98	0	0
99	2.8	2.6
100	0	0.4
IC302		
1	NC	NC
2	4.8	4.8
3	0	0
4	4.7	4.8
5	5.0	5.0
6	5.0	5.0
7	5.0	5.0
8	5.0	5.0
9	5.0	5.0
10	0	0
11	NC	NC
12	0	0
13	0	0
14	NC	NC
15	0	0
16	0	0
17	NC	NC
18	0.4	0.3
19	0.3	0.3
20	5.0	5.0
IC303		
1	0	0
2	6.9	6.9
3	5.0	5.0
4	0	0
5	0	0
6	0	5.0
7	0	0
8	0	0
IC305		
1	0	0
2	0	2.4
3	0	0
4	0	0
5	0	0
6	0.5	0.4
7	0	0
8	5.0	5.0
IC306		
1	5.0	5.0
2	6.9	6.9
3	0	0
4	0	0
IC307		
1	5.0	5.0
2	6.9	6.9
3	0	0
IC308		
1	4.0	4.0
2	5.0	5.0
3	0	0
Q3		
E	3.1	0
C	4.0	0
B	4.0	0.5
Q4		
E	4.1	0
C	4.1	0
B	4.0	0
Q6		
E	0	0
C	0	0
B	0	5.0
Q51		
E	5.0	5.0
C	4.8	0.4
B	4.3	5.0
Q101		
1	2.4	2.5
2	1.4	1.4
3	5.0	5.0
4	5.0	5.0
5	1.4	1.4
6	0	0
Q251		
E	2.9	2.9
C	0	0
B	4.0	4.0
Q301		
E	5.0	5.0
C	0	0
B	5.0	5.0
Q303		
E	5.0	5.0
C	5.0	0
B	0	0
Q306		
E	0	0
C	6.8	6.8
B	0	0
Q307		
E	6.9	0
C	0.3	0
B	6.9	6.9
Q308		
E	0	0
C	4.8	4.8
B	0	0
Q506		
E	0	0
C	0	3.0
B	0	1.9
Q515		
E	2.3	1.7
C	3.2	0
B	1.7	2.3

REAR

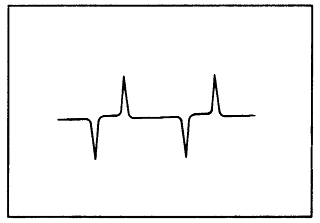
MODE/ PIN NO.	REC	PB
IC11		
1	1.2	1.2
2	0	5.0
3	5.0	5.2
Q11		
E	6.9	6.2
C	5.0	5.0
B	6.2	6.9
Q36		
E	0	0
C	5.0	5.0
B	0	0
Q37		
E	5.0	5.0
C	0.3	0.4
B	5.0	5.0
Q38		
E	0	0
C	0	0
B	4.6	4.6
Q39		
E	6.9	6.9
C	6.9	6.8
B	0	0
Q61		
E	0	0
C	6.9	6.8
B	6.9	0
Q62		
E	6.9	6.9
C	0	0
B	6.9	6.9
Q63		
E	0	0
C	0	0
B	0	0

4.26 WAVEFORMS

< MAIN (SERVO SECTION) >

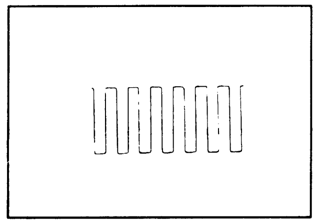
REC: Y/C separator input, color bar SP mode, VHS mode.
PB : Alignment tape, color bar SP mode, VHS mode.

WF1 **TP101**



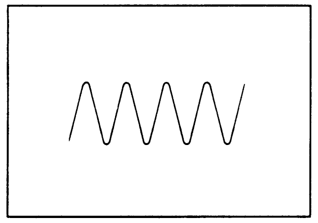
PB 1.2 Vp-p

WF1 **TP101**



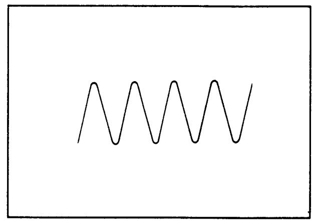
REC 2.5 Vp-p

WF2 **TP202**



REC/PB 2.0 Vp-p

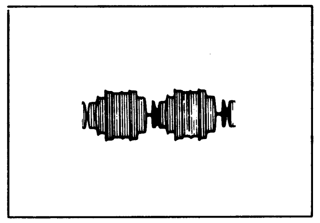
WF3 **TP206**



REC/PB 2.0 Vp-p

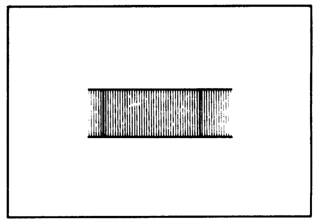
< MAIN (Y/C SECTION) >

WF1 **TP506**



REC 0.4 Vp-p

WF2 **TP501**



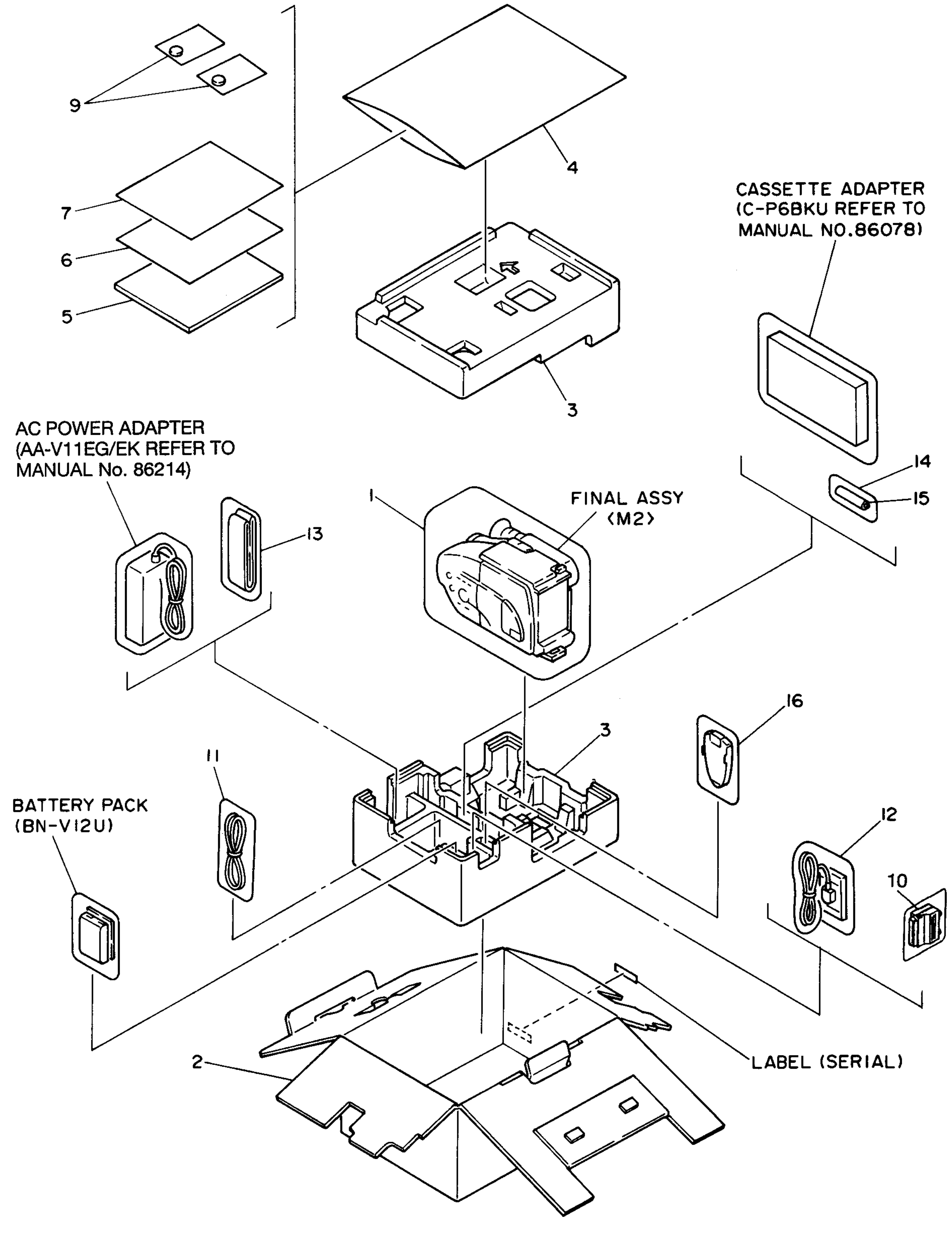
REC 0.8 Vp-p

SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>


9
7
6
5
4
3
CASSETTE ADAPTER
(C-P6BKU REFER TO
MANUAL NO.86078)
AC POWER ADAPTER
(AA-V11EG/EK REFER TO
MANUAL No. 86214)
13
1
FINAL ASSY
<M2>
14
15
16
3
11
BATTERY PACK
(BN-V12U)
12
10
2
LABEL (SERIAL)

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

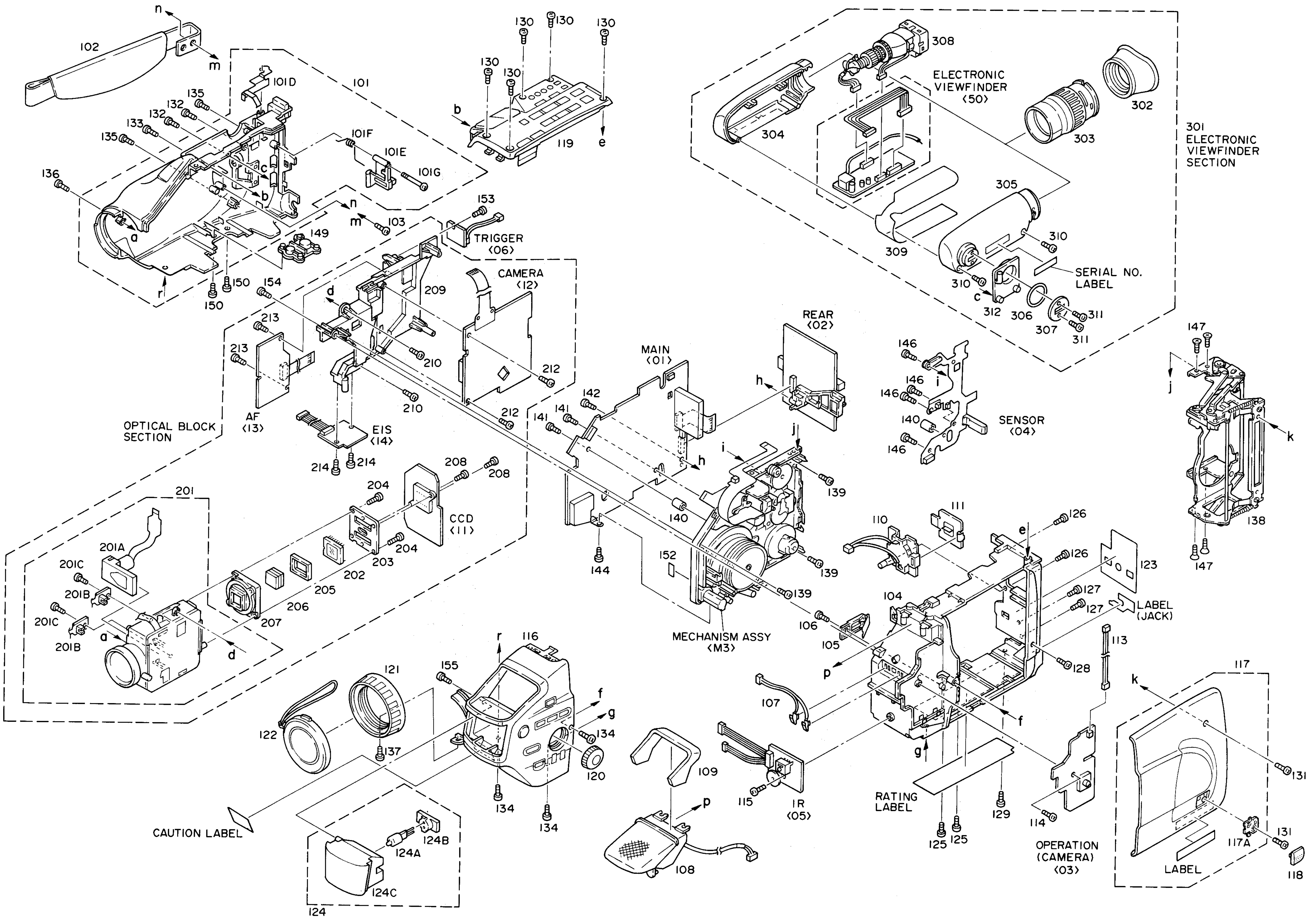
PACKING ASSEMBLY <M1>

	1	YQM30021-24	POLY BAG
	2	YQ31623-3	PACKING CASE,EG
	2	YQ31623-4	PACKING CASE,EK
	3	YQ31375A-2	CUSHION ASSY
	4	PQM30023-5	POLY BAG,EK
	4	QPGA025-03505	POLY BAG,EG
⚠	5	YU30052-378	INSTRUCTIONS,EG *1
⚠	5	YU30052-379	INSTRUCTIONS,EK *2
	6	BT-20066A	E.DISTRI.LIST,EK
	7	BT-20060	GUARANTY CARD,EK
⚠	9	YU40547	BATTERY,X2
	10	PEMC0945	CONNECTOR
	11	YQ20689A	A/V OUTPUT CABLE
	12	PEAC0134-01-04	DC PLUG CORD
	13	YQ10188A-1	SHOULDER STRAP ASSY
	14	QPGA005-01005	POLY BAG
	15	PECA0909	BATTERY
⚠	16	YQ20710C	REMOTE CONTROL UNIT

- INSTRUCTIONS

*1 EG	ENGLISH FRENCH GERMAN SPANISH DUTCH SWEDISH ITALIAN DANISH FINNISH
*2 EK	ENGLISH

5.2 FINAL ASSEMBLY <M2>



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OPTICAL BLOCK
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MECHANISM ASSY
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LABEL
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CAUTION LABEL
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OPERATION
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FINAL ASSEMBLY <M2>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	101	YQ10410E-10	LOWER CASE ASSY
	101D	YQ31345-1-1	EARTH PLATE
	101E	YQ31367-1-6	BUTTON(RELEASE)
	101F	YQ42977-1-2	TORSION SPRING
	101G	YQM30032-51-6	SPECIAL SCREW
	102	YQ20385-25-16	GRIP BELT
	103	YQM30032-42	SPECIAL SCREW,M2.6X6
⚠	104	YQ10412-4-10	UPPER CASE
	105	YQ31220A-2	TAPE GUIDE ASSY
	106	YQM30032-40	SPECIAL SCREW,M2X4
	107	YQ42938A	LIGHT WIRE ASSY
	108	YQ20641-1-5	MICROPHONE
	109	YQ43049-1-2	SPACER(MIC)
⚠	110	YQ31344-1-4	BATTERY TERMINAL UNIT
⚠	111	YQ30931-1-2	BATTERY COVER
	113	ML-Y00686A	CAME/OPE WIRE
	114	SPSF2004Z	SCREW
	115	SSSGA2005M	SCREW
⚠	116	YQ20692C	FRONT PANEL ASSY
⚠	117	YQ31446C-2	CASSETTE COVER ASSY
	117A	YQ42711-2-6	JOINT
	118	YQ31207-5	BUTTON(CLOSE)
⚠	119	YQ10414-3-11	OPERATION UNIT,EG
⚠	119	YQ10414-4-11	OPERATION UNIT,EK
	120	YQ42899-3	KNOB(SCENE)
	121	YQ31364-1-2	HOOD
	122	YQ42350A-1	HOOD CAP ASSY
⚠	123	YQ31297-2	BATTERY BASE SHEET
⚠	124	YQ20645-2-4	DC LIGHT
	124A	YQ20645-001	VIDEO LIGHT BULB
	124B	YQ20645-002	SOCKET BASE ASSY
	124C	YQ20645-003	LAMP CASE ASSY
	125	YQM30032-2-2	SPECIAL SCREW,X2 M2X5
	126	YQM30032-2-2	SPECIAL SCREW,X2 M2X5
	127	YQM30032-2-2	SPECIAL SCREW,X2 M2X5
	128	YQM30032-2-2	SPECIAL SCREW,M2X5
	129	YQM30032-2-2	SPECIAL SCREW,M2X5
	130	YQM30032-4-2	SPECIAL SCREW,X5 M2X6
	131	YQM30032-48	SPECIAL SCREW,X2 M2X7
	132	YQM30032-2-2	SPECIAL SCREW,X2 M2X5
	133	YQM30032-2-2	SPECIAL SCREW,M2X5
	134	YQM30032-2-2	SPECIAL SCREW,X3 M2X5
	135	YQM30032-2-2	SPECIAL SCREW,X2 M2X5
	136	YQM30032-2-2	SPECIAL SCREW,M2X5
	137	YQM30032-2-2	SPECIAL SCREW,M2X5
	138	YQ31059A-15	HOUSING ASSY
	139	SPSF2005Z	SCREW,X3
	140	YU41945	SPACER,X2
	141	YDM4031-2	SCREW,X2
	142	SPSF2004Z	SCREW
	144	SPSH1720M	SCREW
	146	SPSH1725M	SCREW,X4 SENSOR BOARD ASSY
	147	SSSH1730M	SCREW,X4
	149	YQ30756-1-9	BASE
	150	YQM30032-44	SPECIAL SCREW,X2 M2X4
	152	YQM30029-164	SPACER
	153	SPSF2005Z	SCREW
	154	YQM30032-2-2	SPECIAL SCREW,M2X5
	155	SPSF2005M	SCREW

- OPTICAL BLOCK SECTION -

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	201	YU30723	OP BLOCK ASSY
	201A	YU30703-006	IRIS MOTOR ASSY
	201B	YU30703-008	SENSOR,X2
	201C	YU30703-016	SCREW,X2
⚠	202	MN3726HFE	CCD ASSY
	203	YQ42533	CCD BASE
	204	SPSN2080D	SCREW,X2
	205	YQ42532-1-5	SPACER RUBBER
	206	YU41944	OPTICAL LPF
	207	YQ31122-1-2	OPTICAL LPF HOLDER
	208	SPSP2006Z	SCREW,X2
	209	YQ20648-2	BRACKET(OP)
	210	YQM30032-2-2	SPECIAL SCREW,X2 M2X5
	212	YQM30032-2-2	SPECIAL SCREW,X2 M2X5
	213	YQM30032-40	SPECIAL SCREW,X2 M2X4
	214	YQM30032-40	SPECIAL SCREW,X2 M2X4

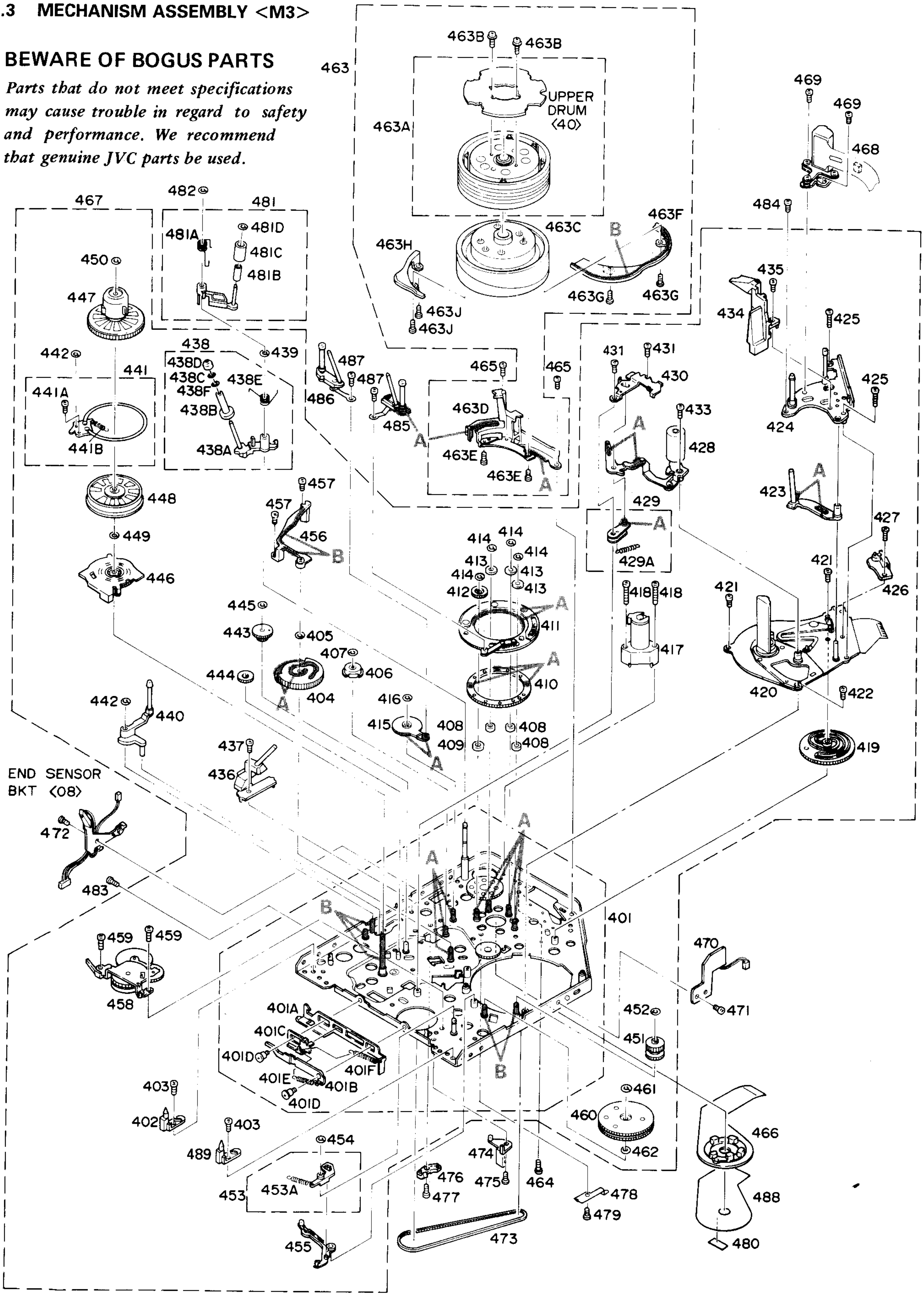
- ELECTRONIC VIEWFINDER SECTION -

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	301	YQ31392B	E.VF ASSY
	302	YU30407-041	EYE CAP
	303	YU30595-005	LENS ASSY
⚠	304	YU30595-001	TOP CASE
⚠	305	YU30595-002	BOTTOM CASE
	306	YU30407-052	WAVE WASHER
	307	YU30407-053	SHOE COVER
⚠	308	YQ31392-001	CRT/DY ASSY
	309	YU30407-055	INSULATOR 1
	310	YU30045-014	SCREW,X2 M1.7X5
⚠	311	YU30236-017	SCREW,X2 M2X8
⚠	312	YQ31392-002	MOUNTING PLATE

5.3 MECHANISM ASSEMBLY <M3>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.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Classification	Name	Part No.	Symbol in drawing
Grease	Moriton Grease No. 1	MOS2-C	A
Oil	Cosmo Hydro HV100	YTU94027	B

Note: The section marked in A and B indicate lubrication and greasing areas.

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MECHANISM ASSEMBLY <M3>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
401	YQ10329B-26	MAIN DECK ASSY
401A	YQ31349-1-3	LOCK PLATE
401B	YQ42757-1-4	CANCEL PLATE
401C	YQ42914-2	LIMIT PLATE ASSY
401D	YQ42375-2	SPECIAL SCREW,X2
401E	YQ42866-3	TENSION SPRING
401F	YQ42866-2	TENSION SPRING
402	YQ42377-1-5	GUIDE PIN
403	SPSH1735M	SCREW,X2
404	YQ20694	CTL CAM GEAR
405	PQM30017-25	SLIT WASHER
406	YQ42234-1-4	LOADING GEAR 2
407	PQM30017-27	SLIT WASHER
408	YQ42141	LOADING GUIDE,X3
409	YQ42140	LOADING GUIDE 2
410	YQ42378-1-3	DRIVE GEAR
411	YQ42916A-5	LOADING RING ASSY
412	YQ42920	SUPPLY MIDDLE GEAR
413	YQ41904	L.WASHER,X3
414	PQM30017-27	SLIT WASHER,X4
415	YQ42921A	SUPPLY LINK GEAR ASSY
416	PQM30017-27	SLIT WASHER
⚠ 417	YU41889-2	MODE CTL MOTOR
418	SPSH1710M	SCREW,X2
419	YQ31332	MIDDLE POLE CAM GEAR
⚠ 420	YU41963	CAPSTAN MOTOR
421	SPSH1725M	SCREW,X2
422	SPSH1730M	MINI SCREW
423	YQ42876A-2	MIDDLE POLE ARM ASSY
424	YQ42879A-9	SUB DECK ASSY
425	SPSH1760M	SCREW,X2
426	YQ31331	MIDDLE POLE CATCHER
427	SSSH1730M	SCREW
428	YQ31350A-2	PINCH ROLLER ARM ASSY
429	YQ42927A-2	SPRING PLATE ASSY
429A	YQ41551-1-3	TENSION SPRING
430	YQ41553-1-9	GUIDE PLATE
431	SPSH1425M	SCREW,X2
433	YQM30032-21	SPECIAL SCREW,M1.7X3
434	YQ31330	CASSETTE BLOCK
435	SPSH1730M	MINI SCREW
436	YQ42407A-1	SUPPLY SLANT POLE ASSY
437	SPSH1735M	SCREW
438	YQ42701A-5	IMPEDANCE ROLLER ARM ASSY
438A	YQ42702A-1	IMPEDANCE ROLLER ARM SUB ASSY
438B	YQ42704A-4	IMPEDANCE ROLLER ASSY
438C	PQM30017-27	SLIT WASHER
438D	YQ42740	CAP
438E	YQ42413	TORSION SPRING
438F	Q03093-839	WASHER
439	PQM30017-25	SLIT WASHER
440	YQ42420A-4	TENSION ARM ASSY
441	YQ42423A-1	BAND ARM ASSY
441A	YQM30032-46	SPECIAL SCREW,M1.4X3.5
441B	YQ42429-1-2	TENSION SPRING
442	PQM30017-27	SLIT WASHER,X2
443	YQ41559-1-2	ENCODER GEAR(1)
444	YQ41560	ENCODER GEAR(2)
445	PQM30017-27	SLIT WASHER
446	YU41407-1-3	CAM SW ASSY
447	YQ42485A-3	SUPPLY RELL DISK ASSY
448	YQ42487A-1	BAND REEL ASSY
449	Q03093-835	WASHER
450	PQM30017-27	SLIT WASHER
451	YQ42773	TAKE-UP GEAR
452	PQM30017-27	SLIT WASHER
453	YQ41628A	SEARCH BRAKE SUB ASSY
453A	YQ41551-2	TENSION SPRING
454	PQM30017-27	SLIT WASHER
455	YQ31353	BRAKE DRIVE LEVER
456	YDM2062-2-4	SUPPLY GUIDE RAIL
457	SPSH1735M	SCREW,X2
458	YU41892-2	CLUTCH UNIT
459	SPSH1725M	SCREW,X2
460	YU41459-1-2	TAKE-UP CLUTCH ASSY
461	PQM30017-27	SLIT WASHER
462	Q03093-835	WASHER
463	YDV2056A	DRUM ASSY,EK
463	YDV2058A	DRUM ASSY,EG
463A	YDM2067A	UPPER DRUM ASSY EK
463A	YDM2067B	UPPER DRUM ASSY EG
463B	YDM4031	SCREW,X2
463C	YDM2073A-2	LOWER DRUM ASSY
463D	YDM2056-1-6	UV BASE
463E	YQ42886	SPECIAL SCREW,X2
463F	YDM2063-1-5	TAKE-UP GUIDE RAIL
463G	SPSH1725M	SCREW,X2
463H	YDM2062	SUPPLY GUIDE RAIL
463J	SPSH1725M	SCREW,X2
464	SPSN1740	SCREW
465	YQ42886	SPECIAL SCREW,X2
466	YQ43039A	RING CONNECTOR ASSY
467	YMA0013B	MECHA(A) ASSY
468	YQ42895A-6	AUDIO/CONTOROL HEAD FINAL ASSY
469	SPSK1720M	MINI SCREW,X2 AC HEAD
470	YU41926-1-2	DEW SENSOR
471	SPSK1720M	MINI SCREW,DEW SENSOR
472	SPSH1735M	SCREW,BRUSH
473	YQ41558	TIMING BELT
474	YQ31280	PWB HOLDER
475	SPSH1725M	SCREW,PWB HOLDER
476	YQ31058-1-1	LED GUIDE
477	SPSH1725M	SCREW,LED GUIDE
478	YU41447-1-6	BRUSH
479	YQ43032	SCREW
480	YQ43025	SHEET
481	YQ42414A-4	HEAD CLEANER ASSY
481A	YQ42417-1-1	TORSION SPRING
481B	YQ42418	ROLLER
481C	YQ42419-2	CLEANER
481D	YQM30017-8	SLIT WASHER
482	PQM30017-25	SLIT WASHER
483	YQ42842	SPECIAL SCREW
484	SPSK1720M	MINI SCREW
485	YQ42881A-2	TAKE-UP POLE BASE ASSY
486	YQ42787A-3	SUPPLY POLE BASE ASSY
487	YQ42931	SPECIAL SCREW,X2
488	YU41965	SHIELD PLATE
489	YQ31465	GUIDE PIN ASSY

5.4 ELECTRICAL PARTS LIST

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MAIN BOARD ASSEMBLY <01>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	YB10117M	MAIN BOARD ASSY,EG	
	PWBA	YB10117P	MAIN BOARD ASSY,EK	
	IC1	M52359FP	IC	
	IC101	BA6305F	IC	
	IC102	XRA10393F	IC	
		or AN1393S	IC	
		or BA10393F	IC	
	IC201	VC5035	IC	
	IC251	JCM5038-XE	IC	
	IC301	SC78148GF-029	IC	
	IC302	BU5946AFS	IC	
	IC303	BA6287F	IC	
	IC304	BU4584BF	IC	
		or XRU4584BF	IC	
	IC305	XRA10393F	IC	
		or AN1393S	IC	
	IC306	MM1065GM	IC	
	IC307	S-80748AN-JC-X	IC	
	IC308	S-8052HNM-CR-X	IC	
	IC401	BA7751AFS	IC	
	IC402	BA15218F	IC	
		or XRA15218F	IC	
	IC501	BH7518AKV	IC	
	IC502	TL8839F	IC	
	IC503	MM1166XF	IC	
	IC504	MM1117XF	IC	
	IC505	NJM2244M	IC	
	Q1	2SD2114K(UV)	TRANSISTOR	
	Q2	2SD2114K(UV)	TRANSISTOR	
	Q3	2SD2114K(UV)	TRANSISTOR	
	Q4	2SD2114K(UV)	TRANSISTOR	
	Q5	2SA1774(QRS)	TRANSISTOR	
	Q6	DTC144EE	TRANSISTOR	
		or UN9213	TRANSISTOR	
	Q51	2SA1577(RS)	TRANSISTOR	
	Q52	2SC4081(R)	TRANSISTOR	
	Q53	2SC4081(R)	TRANSISTOR	
	Q54	2SC4081(R)	TRANSISTOR	
	Q101	IMD2	TRANSISTOR	
		or XN4312	TRANSISTOR	
	Q103	2SC4617(RS)	TRANSISTOR	
	Q104	2SA1774(RS)	TRANSISTOR	
	Q251	2SA1576(QR)	TRANSISTOR	
	Q301	2SA1576(QRS)	TRANSISTOR	
	Q303	DTA114EU	TRANSISTOR	
	Q304	DTA144TU	TRANSISTOR	
	Q305	DTC114EU	TRANSISTOR	
	Q306	DTC114EU	TRANSISTOR	
	Q307	2SA1576(QRS)	TRANSISTOR	
	Q308	DTC114EU	TRANSISTOR	
	Q402	DTA143EE	TRANSISTOR	
	Q403	DTA143EE	TRANSISTOR	
	Q404	2SC4617(RS)	TRANSISTOR	
	Q405	FMW3	TRANSISTOR	
	Q406	DTA124EE	TRANSISTOR	
	Q407	DTC124EE	TRANSISTOR	
	Q501	DTC144EE	TRANSISTOR,EK	
	Q502	DTC144EE	TRANSISTOR,EK	
		or UN9213	TRANSISTOR,EK	
	Q504	2SC4617(QRS)	TRANSISTOR	
	Q506	2SC4617(QRS)	TRANSISTOR	
	Q507	DTC144EE	TRANSISTOR,EK	
	Q508	2SA1774(QRS)	TRANSISTOR	
	Q509	2SC4617(QRS)	TRANSISTOR	
	Q510	DTC144EE	TRANSISTOR,EK	
	Q511	2SC4617(QRS)	TRANSISTOR	
	Q513	2SC4617(QRS)	TRANSISTOR	
	Q514	2SA1577(QR)	TRANSISTOR	
	Q515	2SC4617(QRS)	TRANSISTOR	
	Q516	DTA144EE	TRANSISTOR	
		or UN9113	TRANSISTOR	
	Q517	DTA144EE	TRANSISTOR	
		or UN9113	TRANSISTOR	
	Q519	DTA144EE	TRANSISTOR	
		or UN9113	TRANSISTOR	
	Q520	DTA144EE	TRANSISTOR	
		or UN9113	TRANSISTOR	
	D101	DA221	DIODE	
	D102	DAN222	DIODE	
	D202	MA132WK	DIODE	
	D301	RB411D	DIODE	
⚠	D302	MA704WA	DIODE	
⚠	D303	MA704	DIODE	
	D304	DAN222	DIODE	
	D305	SB05-03Q-X	DIODE	
	D306	RD6.8M(B1)	ZENER DIODE	
	D307	RD22M(B1-3)-X	ZENER DIODE	
	D308	RD6.8M(B1)	ZENER DIODE	
	D309	DAN202U	DIODE	
	D311	DAN202U	DIODE	
	D312	DAN202U	DIODE	
	D313	DAN202U	DIODE	
	D314	MA716	DIODE	
	D315	DAN202U	DIODE	
	D316	DAN202U	DIODE	
	D317	DAN202U	DIODE	
	D318	DAN202U	DIODE	
	D502	DAN202U	DIODE	
	D505	DAN202U	DIODE	
	R1	NRSA63J-331NC	RESISTOR	330Ω,1/16W
	R2	NRSA63J-511N	RESISTOR	510Ω,1/16W
	R3	NRSA63J-621N	RESISTOR	620Ω,1/16W
	R4	NRSA63J-331NC	RESISTOR	330Ω,1/16W
	R5	NRSA63J-511NC	RESISTOR	510Ω,1/16W
	R6	NRSA63J-331NC	RESISTOR	330Ω,1/16W
	R8	NRSA63J-472NC	RESISTOR	4.7KΩ,1/16W
	R9	NRSA63J-331NC	RESISTOR	330Ω,1/16W
	R10	NRSA63J-511NC	RESISTOR	510Ω,1/16W
	R11	NRVA62D-914N	RESISTOR	910KΩ,1/16W
	R12	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
	R13	NRSA63J-0R0NC	RESISTOR	0Ω,1/16W
	R14	NRSA63J-0R0NC	RESISTOR	0Ω,1/16W
	R15	NRSA63J-0R0NC	RESISTOR	0Ω,1/16W
	R16	NRSA63J-0R0NC	RESISTOR	0Ω,1/16W
	R17	NRSA63J-223NC	RESISTOR	22KΩ,1/16W
	R18	NRSA63J-0R0NC	RESISTOR	0Ω,1/16W
	R19	NRSA63J-513NC	RESISTOR	51KΩ,1/16W
	R20	NRSA63J-513NC	RESISTOR	51KΩ,1/16W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R21	NRSA63J-513NC	RESISTOR	51KΩ,1/16W
	R23	NRSA63J-101NC	RESISTOR	100Ω,1/16W
	R24	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R29	NRSA63J-513NC	RESISTOR	51KΩ,1/16W
	R30	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R31	NRSA63J-682N	RESISTOR	6.8KΩ,1/16W
	R51	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R52	NRSA63J-562N	RESISTOR	5.6KΩ,1/16W
	R53	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
	R54	NRSA63J-153NC	RESISTOR	15KΩ,1/16W
	R55	NRSA63J-473NC	RESISTOR	47KΩ,1/16W
	R56	NRSA63J-473NC	RESISTOR	47KΩ,1/16W
	R57	NRSA63J-5R6NC	RESISTOR	5.6Ω,1/16W
	R58	NRSA63J-5R6NC	RESISTOR	5.6Ω,1/16W
	R101	NRSA63J-221NC	RESISTOR	220Ω,1/16W
	R104	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
	R105	NRSA63J-471NC	RESISTOR	470Ω,1/16W
	R106	NRSA63J-474NC	RESISTOR	470KΩ,1/16W
	R107	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
	R108	NRSA63J-223NC	RESISTOR	22KΩ,1/16W
	R109	NRSA63J-104NC	RESISTOR	100KΩ,1/16W
	R111	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R112	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
	R113	NRSA63J-474N	RESISTOR	470KΩ,1/16W
	R114	NRSA63J-104N	RESISTOR	100KΩ,1/16W
	R117	NRSA63J-331NC	RESISTOR	330Ω,1/16W
	R118	NRSA63J-273NC	RESISTOR	27KΩ,1/16W
	R119	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R120	NRSA63J-104N	RESISTOR	100KΩ,1/16W
	R121	NRSA63J-104N	RESISTOR	100KΩ,1/16W
	R122	NRSA63J-104N	RESISTOR	100KΩ,1/16W
	R123	NRSA63J-104N	RESISTOR	100KΩ,1/16W
	R124	NRSA63J-104N	RESISTOR	100KΩ,1/16W
	R125	NRSA63J-561N	RESISTOR	560Ω,1/16W
	R126	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
	R127	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
	R130	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
	R132	NRSA63J-332NC	RESISTOR	3.3KΩ,1/16W
	R133	NRSA63J-332NC	RESISTOR	3.3KΩ,1/16W
	R134	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
	R135	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
	R137	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
	R138	NVP1311-103N	V RESISTOR,PB SW POINT	
	R139	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
	R140	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
	R142	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R201	NRSA63J-2R2NC	RESISTOR	2.2Ω,1/16W
	R202	NRSA63J-2R2NC	RESISTOR	2.2Ω,1/16W
	R203	NRSA63J-2R2NC	RESISTOR	2.2Ω,1/16W
	R204	NRSA63J-0R0NC	RESISTOR	0Ω,1/16W
	R205	NRSA63J-121N	RESISTOR	120Ω,1/16W
	R206	NRSA63J-393NC	RESISTOR	39KΩ,1/16W
	R207	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
	R208	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
	R209	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
	R210	NRSA63J-154NC	RESISTOR	150KΩ,1/16W
	R211	NRSA63J-153NC	RESISTOR	15KΩ,1/16W
	R212	NRSA63J-333NC	RESISTOR	33KΩ,1/16W
	R213	NRSA63J-472NC	RESISTOR	4.7KΩ,1/16W
	R214	YU41353-R68N	RESISTOR	0.68Ω,1/2W
	R251	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W
	R252	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R253	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W
	R254	NRSA63J-681N	RESISTOR	680Ω,1/16W
	R255	NRSA63J-681NC	RESISTOR	680Ω,1/16W
	R256	NRSA63J-104NC	RESISTOR	100KΩ,1/16W
	R257	NRSA63J-123NC	RESISTOR	12KΩ,1/16W
	R258	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
	R259	NRSA63J-162NC	RESISTOR	1.6KΩ,1/16W
	R260	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R261	NRSA63J-683N	RESISTOR	68KΩ,1/16W
	R262	NRSA63J-243N	RESISTOR	24KΩ,1/16W
	R263	NRSA63J-104N	RESISTOR	100KΩ,1/16W
	R264	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R267	NRSA63J-473N	RESISTOR	47KΩ,1/16W
	R268	NRSA63J-473N	RESISTOR	47KΩ,1/16W
	R269	YU41353-R47NZ	RESISTOR	0.47Ω,1/2W
	R270	NRSA63J-123N	RESISTOR	12KΩ,1/16W
	R271	NRSA63J-473N	RESISTOR	47KΩ,1/16W
	R301	NRSA63J-105N	RESISTOR	1MΩ,1/16W
	R303	NRSA63J-105NC	RESISTOR	1MΩ,1/16W
	R304	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R305	NRSA63J-152N	RESISTOR,EK	1.5KΩ,1/16W
	R308	NRSA63J-0R0N	RESISTOR,EG	0Ω,1/16W
	R309	NRSA63J-0R0N	RESISTOR,EK	0Ω,1/16W
	R311	NRVA62D-623N	RESISTOR	62KΩ,1/16W
	R312	QRSA08J-302YN	RESISTOR	3KΩ,1/10W
	R313	NRVA62D-683N	RESISTOR	68KΩ,1/16W
⚠	R314	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
⚠	R315	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
	R316	NRSA63J-684NC	RESISTOR	680KΩ,1/16W
	R317	NRSA63J-125N	RESISTOR	1.2MΩ,1/16W
	R318	NRSA63J-125N	RESISTOR	1.2MΩ,1/16W
	R319	NRSA63J-104N	RESISTOR	100KΩ,1/16W
	R320	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
	R321	NRSA63J-223NC	RESISTOR	22KΩ,1/16W
	R322	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R323	NRSA63J-223NC	RESISTOR	22KΩ,1/16W
	R324	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R326	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R328	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R330	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R331	NRSA63J-224NC	RESISTOR	220KΩ,1/16W
	R332	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R333	NRSA63J-224NC	RESISTOR	220KΩ,1/16W
	R334	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R335	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R336	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R337	NRSA63J-472NC	RESISTOR	4.7KΩ,1/16W
	R339	NRSA63J-104NC	RESISTOR	100KΩ,1/16W
	R340	NRSA63J-473NC	RESISTOR	47KΩ,1/16W
	R341	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R342	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
	R343	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R344	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R345	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
	R346	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
	R347	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R348	NRSA63J-102N	RESISTOR	1KΩ,1/16W
	R349	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
	R350	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
	R351	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
	R352	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
	R353	NRSA63J-223NC	RESISTOR	22KΩ,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R354	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R355	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
R356	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R357	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
R358	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R359	NRSA63J-104NC	RESISTOR	100KΩ,1/16W
R360	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R361	NRSA63J-223NC	RESISTOR	22KΩ,1/16W
R362	NRSA63J-105NC	RESISTOR	1MΩ,1/16W
R363	NRSA63J-224N	RESISTOR	220KΩ,1/16W
R364	NRSA63J-124NC	RESISTOR	120KΩ,1/16W
R365	NRSA63J-223N	RESISTOR	22KΩ,1/16W
R366	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R367	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R368	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R369	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R370	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R372	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R374	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R375	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R376	NRSA63J-223NC	RESISTOR	22KΩ,1/16W
R377	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R378	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R379	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R380	NRSA63J-474N	RESISTOR	470KΩ,1/16W
R381	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R382	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R383	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R385	NRSA63J-751N	RESISTOR	750Ω,1/16W
R386	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R388	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R389	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R390	NRSA63J-101N	RESISTOR	100Ω,1/16W
R391	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R392	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R393	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R394	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
R395	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R396	NRSA63J-104NC	RESISTOR	100KΩ,1/16W
R397	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R398	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R399	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R402	NRSA63J-101NC	RESISTOR	100Ω,1/16W
R403	NRSA63J-152NC	RESISTOR	1.5KΩ,1/16W
R404	NRSA63J-273NC	RESISTOR	27KΩ,1/16W
R405	NRSA63J-561N	RESISTOR,EK	560Ω,1/16W
R406	NRSA63J-470NC	RESISTOR	47Ω,1/16W
R407	NRSA63J-273NC	RESISTOR	27KΩ,1/16W
R408	NVP1311-681N	V RESISTOR,PB AUDIO LEVEL	
R409	NRSA63J-332NC	RESISTOR	3.3KΩ,1/16W
R410	NRSA63J-124NC	RESISTOR	120KΩ,1/16W
R411	NRSA63J-332NC	RESISTOR	3.3KΩ,1/16W
R412	NRSA63J-100N	RESISTOR	10Ω,1/16W
R413	NRSA63J-153NC	RESISTOR	15KΩ,1/16W
R414	QRSA08J-2R2YN	RESISTOR	2.2Ω,1/10W
R415	NRSA63J-223NC	RESISTOR	22KΩ,1/16W
R416	NVP1311-473N	V RESISTOR,BIAS LEVEL	
R417	NRSA63J-472NC	RESISTOR	4.7KΩ,1/16W
R418	NRSA63J-272NC	RESISTOR	2.7KΩ,1/16W
R419	NRSA63J-123NC	RESISTOR	12KΩ,1/16W
R420	NRSA63J-112NC	RESISTOR	1.1KΩ,1/16W
R421	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
R422	NRVA63D-104N	RESISTOR	100KΩ,1/16W
R423	NRVA63D-104N	RESISTOR	100KΩ,1/16W
R424	NRVA63D-513N	RESISTOR	51KΩ,1/16W
R425	NRVA63D-331N	RESISTOR	330Ω,1/16W
R426	NRVA63D-472N	RESISTOR	4.7KΩ,1/16W
R427	NRSA63J-561NC	RESISTOR	560Ω,1/16W
R428	NRSA63J-562N	RESISTOR	5.6KΩ,1/16W
R429	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
R430	NRSA63J-104NC	RESISTOR	100KΩ,1/16W
R431	NRSA63J-563N	RESISTOR	56KΩ,1/16W
R432	NRSA63J-683NC	RESISTOR	68KΩ,1/16W
R433	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
R434	NRSA63J-163NC	RESISTOR	16KΩ,1/16W
R436	NRSA63J-392NC	RESISTOR	3.9KΩ,1/16W
R437	NRSA63J-123NC	RESISTOR	12KΩ,1/16W
R438	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
R439	NRSA63J-333NC	RESISTOR	33KΩ,1/16W
R440	NRSA63J-105NC	RESISTOR	1MΩ,1/16W
R441	NRSA63J-223NC	RESISTOR	22KΩ,1/16W
R442	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
R443	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
R444	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
R445	NRSA63J-102NC	RESISTOR	1KΩ,1/16W
R447	NRSA63J-682NC	RESISTOR	6.8KΩ,1/16W
R458	NRSA63J-123NC	RESISTOR	12KΩ,1/16W
R459	NRSA63J-123NC	RESISTOR	12KΩ,1/16W
R460	NRSA63J-241N	RESISTOR	240Ω,1/16W
R487	NRSA63J-0R0NC	RESISTOR	0Ω,1/16W
R490	NRSA63J-820N	RESISTOR	82Ω,1/16W
R491	NRSA63J-820N	RESISTOR	82Ω,1/16W
R492	NRSA63J-820N	RESISTOR	82Ω,1/16W
R502	NRSA63J-152N	RESISTOR	1.5KΩ,1/16W
R503	NRSA63J-561N	RESISTOR	560Ω,1/16W
R504	NRSA63J-822N	RESISTOR	8.2KΩ,1/16W
R505	NRSA63J-681N	RESISTOR	680Ω,1/16W
R506	NRSA63J-333N	RESISTOR	33KΩ,1/16W
R507	NRSA63J-681N	RESISTOR	680Ω,1/16W
R508	NRSA63J-182N	RESISTOR	1.8KΩ,1/16W
R509	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R510	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R511	NRSA63J-271N	RESISTOR	270Ω,1/16W
R512	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R513	NRSA63J-122N	RESISTOR	1.2KΩ,1/16W
R514	NRSA63J-471N	RESISTOR	470Ω,1/16W
R516	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
R517	NRSA63J-474NC	RESISTOR	470KΩ,1/16W
R518	NRSA63J-152N	RESISTOR	1.5KΩ,1/16W
R519	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R520	NRSA63J-681N	RESISTOR	680Ω,1/16W
R523	NRSA63J-184NC	RESISTOR	180KΩ,1/16W
R524	NRSA63J-154NC	RESISTOR	150KΩ,1/16W
R525	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R526	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R527	NRSA63J-152N	RESISTOR,EK	1.5KΩ,1/16W
R532	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
R533	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
R534	NRSA63J-471N	RESISTOR,EG	470Ω,1/16W
R534	NRSA63J-751N	RESISTOR,EK	750Ω,1/16W
R535	NRSA63J-122N	RESISTOR,EK	1.2KΩ,1/16W
R535	NRSA63J-152N	RESISTOR,EG	1.5KΩ,1/16W
R538	NRSA63J-122NC	RESISTOR	1.2KΩ,1/16W
R539	NRSA63J-391N	RESISTOR	390Ω,1/16W

#△ REF No.	PART No.	PART NAME, DESCRIPTION	
R540	NRSA63J-561N	RESISTOR	560Ω,1/16W
R542	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R543	NRSA63J-471N	RESISTOR	470Ω,1/16W
R544	NRSA63J-223N	RESISTOR	22KΩ,1/16W
R545	NRSA63J-183N	RESISTOR	18KΩ,1/16W
R546	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R547	NRSA63J-561N	RESISTOR	560Ω,1/16W
R548	NRSA63J-561N	RESISTOR	560Ω,1/16W
R549	NRSA63J-331N	RESISTOR	330Ω,1/16W
R550	NRSA63J-122N	RESISTOR,EK	1.2KΩ,1/16W
R551	NRSA63J-331N	RESISTOR	330Ω,1/16W
R553	NRSA63J-331N	RESISTOR	330Ω,1/16W
R554	NRSA63J-681N	RESISTOR	680Ω,1/16W
R555	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R556	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R557	NRSA63J-222N	RESISTOR,EK	2.2KΩ,1/16W
R558	NRSA63J-680N	RESISTOR	68Ω,1/16W
R559	NRSA63J-221N	RESISTOR	220Ω,1/16W
R560	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R561	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R562	NRSA63J-682N	RESISTOR	6.8KΩ,1/16W
R565	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R566	NRSA63J-223N	RESISTOR	22KΩ,1/16W
R567	NRSA63J-223NC	RESISTOR	22KΩ,1/16W
R571	NRSA63J-222NC	RESISTOR	2.2KΩ,1/16W
R572	NRSA63J-511N	RESISTOR	510Ω,1/16W
R574	NRSA63J-103NC	RESISTOR	10KΩ,1/16W
R575	NRSA63J-472NC	RESISTOR	4.7KΩ,1/16W
R577	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
R578	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
R580	NRSA63J-153NC	RESISTOR	15KΩ,1/16W
R581	NRSA63J-123NC	RESISTOR	12KΩ,1/16W
R583	NRSA63J-223NC	RESISTOR	22KΩ,1/16W
R584	NRSA63J-123NC	RESISTOR	12KΩ,1/16W
R586	NRSA63J-272N	RESISTOR	2.7KΩ,1/16W
R587	NRSA63J-822N	RESISTOR	8.2KΩ,1/16W
R589	NRSA63J-432N	RESISTOR	4.3KΩ,1/16W
R590	NRSA63J-512N	RESISTOR	5.1KΩ,1/16W
R593	NRSA63J-561N	RESISTOR	560Ω,1/16W
R594	NRSA63J-561N	RESISTOR	560Ω,1/16W
R595	NRSA63J-561N	RESISTOR	560Ω,1/16W
R596	NRSA63J-0R0NC	RESISTOR	0Ω,1/16W
R601	NVP1311-223N	V RESISTOR,DEVIATION	
R602	NVP1311-223N	V RESISTOR,CARRIER	
R603	NVP1311-104N	V RESISTOR,PB LEVEL	
R604	NVP1311-473N	V RESISTOR,EE LEVEL	
R605	NVP1311-223N	V RESISTOR,VCO F0	
R606	NVP1311-222N	V RESISTOR,1H DL SIG LEVEL	
R608	NVP1311-472N	V RESISTOR,VIDEO EQ	
R609	NVP1311-102N	V RESISTOR,REC COLOR LEVEL	
R611	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R620	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R621	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R702	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R703	NRSA63J-474NC	RESISTOR	470KΩ,1/16W
R704	NRSA63J-474N	RESISTOR	470KΩ,1/16W
R705	NRSA63J-474NC	RESISTOR	470KΩ,1/16W
R707	NRSA63J-474NC	RESISTOR	470KΩ,1/16W
R708	NRSA63J-103N	RESISTOR	10KΩ,1/16W
C1	YU40688-476N	E CAPACITOR	47μF,5.5V
C2	QCFA1CZ-104	CAPACITOR	0.1μF,16V
C3	NCB31EK-103A	CAPACITOR	0.01μF,25V
C4	NCS31HJ-100A	CAPACITOR	10pF,50V
C5	QCYA1EK-104	CAPACITOR	0.1μF,25V
C7	QCY81HK-103	CAPACITOR	0.01μF,50V
C8	QCY81HK-103	CAPACITOR	0.01μF,50V
C9	QCYA1EK-104	CAPACITOR	0.1μF,25V
C10	NCS31HJ-100A	CAPACITOR	10pF,50V
C12	NCB31EK-103A	CAPACITOR	0.01μF,25V
C13	QCY81HK-103	CAPACITOR	0.01μF,50V
C14	QCYA1EK-104	CAPACITOR	0.1μF,25V
C16	NCS31HJ-150A	CAPACITOR	15pF,50V
C17	NCB31EK-103A	CAPACITOR	0.01μF,25V
C18	NCS31HJ-181A	CAPACITOR	180pF,50V
C19	NCB31EK-103A	CAPACITOR	0.01μF,25V
C20	NCB31EK-103A	CAPACITOR	0.01μF,25V
C21	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C22	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C23	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C24	QCF81CZ-105	CAPACITOR	1μF,16V
C25	NCB31EK-103A	CAPACITOR	0.01μF,25V
C26	NCS31HJ-150A	CAPACITOR	15pF,50V
C27	QCYA1EK-104	CAPACITOR	0.1μF,25V
C29	QCY81HK-103	CAPACITOR	0.01μF,50V
C30	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C31	QCYA1EK-104	CAPACITOR	0.1μF,25V
C32	NCS31HJ-101A	CAPACITOR	100pF,50V
C34	NCB31HK-102A	CAPACITOR	0.001μF,50V
C37	NCB31HK-682A	CAPACITOR	0.0068μF,50V
C38	NCT06CH-2R0A	CAPACITOR	2pF,50V
C51	QCTA1CH-5R0	CAPACITOR	5pF,16V
C52	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C53	QCTA1CH-181	CAPACITOR	180pF,16V
C54	QCTA1CH-181	CAPACITOR	180pF,16V
C55	QCTA1CH-271	CAPACITOR	270pF,16V
C56	QCTA1CH-681	CAPACITOR	680pF,16V
C101	YU40688-476N	E CAPACITOR	47μF,5.5V
C102	NEA21HM-105NZ	E CAPACITOR	1μF,50V
C103	NEA20GM-476NZ	E CAPACITOR	47μF,4.0V
C104	NCT06CH-101A	CAPACITOR	100pF,50V
C105	QCYA1HK-103	CAPACITOR	0.01μF,50V
C106	NEA21CM-106N	E CAPACITOR	10μF,16V
C107	NEA21CM-106N	E CAPACITOR	10μF,16V
C108	NCB31HK-102A	CAPACITOR	0.001μF,50V
C109	NEA21CM-106N	E CAPACITOR	10μF,16V
C110	NCB31EK-103A	CAPACITOR	0.01μF,25V
C111	QCFA1CZ-105	CAPACITOR	1μF,16V
C113	NCT06CH-101A	CAPACITOR	100pF,50V
C114	NEH31CM-106N	E CAPACITOR	10μF,16V
C119	QCYA1EK-104	CAPACITOR	0.1μF,25V
C120	QCYA1EK-104	CAPACITOR	0.1μF,25V
C121	NCB31CK-333A	CAPACITOR	0.033μF,16V
C122	NCB31CK-333A	CAPACITOR	0.033μF,16V
C125	NCB31HK-102A	CAPACITOR	0.001μF,50V
C201	QCF81CZ-225	CAPACITOR	2.2μF,16V
C202	QCF81CZ-225	CAPACITOR	2.2μF,16V
C203	QCF81CZ-225	CAPACITOR	2.2μF,16V
C207	NCR21CK-473A	CAPACITOR	0.047μF,16V
C208	NEA21HM-105NZ	E CAPACITOR	1μF,50V
C209	NCB31HK-681A	CAPACITOR	680pF,50V
C210	NCB31HK-332A	CAPACITOR	0.0033μF,50V
C211	NEA21HM-474NZ	E CAPACITOR	0.47μF,50V
C212	NCB31HK-331A	CAPACITOR	330pF,50V
C213	QCYA1EK-104	CAPACITOR	0.1μF,25V

#△ REF No.	PART No.	PART NAME, DESCRIPTION	
C214	NEA21CM-106N	E CAPACITOR	10μF,16V
C215	NCB31EK-103A	CAPACITOR	0.01μF,25V
C216	QCYA1EK-104	CAPACITOR	0.1μF,25V
C217	QCYA1HK-103	CAPACITOR	0.01μF,50V
C251	QCF81CZ-105	CAPACITOR	1μF,16V
C252	QCF81CZ-105	CAPACITOR	1μF,16V
C253	QCF81CZ-105	CAPACITOR	1μF,16V
C254	QCFA1CZ-105	CAPACITOR	1μF,16V
C255	NCT06CH-101A	CAPACITOR	100pF,50V
C256	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C257	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C258	QCYA1HK-103	CAPACITOR	0.01μF,50V
C259	NCB31EK-223A	CAPACITOR	0.022μF,25V
C260	NCB31EK-223A	CAPACITOR	0.022μF,25V
C261	NCB31EK-223A	CAPACITOR	0.022μF,25V
C301	YU40688-336N	E CAPACITOR	33μF,10V
C302	YU40688-336N	E CAPACITOR	33μF,10V
C303	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C304	QCY81EK-104	CAPACITOR	0.1μF,25V
C305	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C307	NCT06CH-8R0A	CAPACITOR	8pF,50V
C308	NCT07CH-220A	CAPACITOR	22pF,50V
C309	NCT07CH-270A	CAPACITOR	27pF,50V
C310	NCT07CH-270A	CAPACITOR	27pF,50V
C311	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C312	NCB31HK-682A	CAPACITOR	0.0068μF,50V
C313	NCB31EK-103A	CAPACITOR	0.01μF,25V
C314	NCB31EK-472A	CAPACITOR	0.0047μF,25V
C315	NCF31CZ-473A	CAPACITOR	0.047μF,16V
C316	NCF31CZ-473A	CAPACITOR	0.047μF,16V
C317	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C318	QCYA1EK-104	CAPACITOR	0.1μF,25V
C319	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C320	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C321	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C322	NCB31EK-103A	CAPACITOR	0.01μF,25V
C323	NCT07CH-300A	CAPACITOR	30pF,50V
C324	YU41582-200X	TRIMMER CAPACITOR,FOCUS ZONE	
C325	NCT07CH-100A	CAPACITOR	10pF,50V
C326	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
C327	NCB31EK-103A	CAPACITOR	0.01μF,25V
C340	NCB31EK-103A	CAPACITOR	0.01μF,25V
C341	NEE21AM-106RY	E CAPACITOR	10μF,10V
C342	NCB31EK-103A	CAPACITOR	0.01μF,25V
C343	NCB31EK-103A	CAPACITOR	0.01μF,25V
C401	YU40688-476N	E CAPACITOR	47μF,5.5V
C402	NCB31EK-183A	CAPACITOR	0.018μF,25V
C403	QCF81CZ-105	CAPACITOR	1μF,16V
C404	NCS31HJ-330A	CAPACITOR	33pF,50V
C405	NEA21CM-106N	E CAPACITOR	10μF,16V
C406	QCYA1EK-393	CAPACITOR,EK	0.039μF,25V
C407	NEE21CM-105RY	E CAPACITOR	1μF,16V
C408	NCB31HK-272A	CAPACITOR,EK	0.0027μF,50V
C409	NCB31HK-681A	CAPACITOR	680pF,50V
C410	NEA20JM-226N	E CAPACITOR	22μF,6.3V
C411	NCB31EK-223A	CAPACITOR	0.022μF,25V
C412	NCS31HJ-331A	CAPACITOR	330pF,50V
C413	YU40688-476N	E CAPACITOR	47μF,5.5V
C414	QCF81CZ-105	CAPACITOR	1μF,16V
C415	YU40688-476N	E CAPACITOR	47μF,5.5V
C416	NCB31HK-392A	CAPACITOR	0.0039μF,50V
C417	NCS31HJ-471A	CAPACITOR	470pF,50V

#△ REF No.	PART No.	PART NAME, DESCRIPTION	
C418	QFZ9011-333	F CAPACITOR	0.033μF,63V
C419	NCB31HK-471A	CAPACITOR	470pF,50V
C420	NCT08CH-101A	CAPACITOR	100pF,50V
C421	NCT08CH-101A	CAPACITOR	100pF,50V
C422	NCT08CH-101A	CAPACITOR	100pF,50V
C423	NCT08CH-101A	CAPACITOR	100pF,50V
C425	NEA21HM-105NZ	E CAPACITOR	1μF,50V
C426	YU40688-336N	E CAPACITOR	33μF,10V
C427	NCB31CK-333A	CAPACITOR	0.033μF,16V
C428	NCS31HJ-101A	CAPACITOR	100pF,50V
C429	NCB31HK-821A	CAPACITOR	820pF,50V
C430	QCF81CZ-225	CAPACITOR	2.2μF,16V
C431	NEE21CM-105RY	E CAPACITOR	1μF,16V
C432	QCYA1EK-104	CAPACITOR	0.1μF,25V
C434	NCB31HK-821A	CAPACITOR	820pF,50V
C435	QCYA1HK-333	CAPACITOR	0.033μF,50V
C436	YU40688-476N	E CAPACITOR	47μF,5.5V
C437	NEA20JM-226N	E CAPACITOR	22μF,6.3V
C438	NEA21CM-106N	E CAPACITOR	10μF,16V
C439	NEA21EM-475NZ	E CAPACITOR	4.7μF,25V
C440	NEA20JM-226N	E CAPACITOR	22μF,6.3V
C441	QCF81CZ-105	CAPACITOR	1μF,16V
C442	QCF81CZ-105	CAPACITOR	1μF,16V
C450	YU40688-476N	E CAPACITOR	47μF,5.5V
C452	QCYA1HK-333	CAPACITOR	0.033μF,50V
C501	NCS31HJ-560A	CAPACITOR	56pF,50V
C502	QCSA1HJ-561	CAPACITOR	560pF,50V
C503	NCS31HJ-470A	CAPACITOR	47pF,50V
C504	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C505	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C506	NCB31EK-223A	CAPACITOR	0.022μF,25V
C507	NEA21HM-225NZ	E CAPACITOR	2.2μF,50V
C508	NCB31EK-223A	CAPACITOR	0.022μF,25V
C509	NEA21EM-475NZ	E CAPACITOR	4.7μF,25V
C510	NEA21CM-106N	E CAPACITOR	10μF,16V
C511	NCB31EK-103A	CAPACITOR	0.01μF,25V
C512	QCFA1CZ-104	CAPACITOR	0.1μF,16V
C513	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C514	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C515	QCFA1CZ-104	CAPACITOR	0.1μF,16V
C516	QCFA1CZ-104	CAPACITOR	0.1μF,16V
C517	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C521	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C522	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C523	QCFA1CZ-104	CAPACITOR	0.1μF,16V
C524	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C525	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C526	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C527	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C528	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C529	NCS31HJ-200A	CAPACITOR	20pF,50V
C530	NEA20GM-476NZ	E CAPACITOR	47μF,4.0V
C531	NCF31EZ-103A	CAPACITOR	0.01μF,25V
C532	NEA21HM-105NZ	E CAPACITOR	1μF,50V
C533	NEA21CM-106N	E CAPACITOR	10μF,16V
C534	NEA21HM-105NZ	E CAPACITOR	1μF,50V
C535	NEA21CM-106N	E CAPACITOR	10μF,16V
C536	NCB31HK-102A	CAPACITOR	0.001μF,50V
C537	NEA20JM-226N	E CAPACITOR	22μF,6.3V
C538	NEA21CM-106N	E CAPACITOR	10μF,16V
C539	NEA21CM-106N	E CAPACITOR	10μF,16V
C540	NEA21HM-474NZ	E CAPACITOR	0.47μF,50V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C541	NEA21HM-225NZ	E CAPACITOR	2.2μF,50V
	C542	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C543	QCFA1CZ-104	CAPACITOR	0.1μF,16V
	C544	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	C545	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	C546	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C547	NCS31HJ-560A	CAPACITOR	56pF,50V
	C548	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C549	YU40688-476N	E CAPACITOR	47μF,5.5V
	C550	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C551	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C552	NEA21CM-106N	E CAPACITOR	10μF,16V
	C553	QCSA1HJ-101	CAPACITOR	100pF,50V
	C555	NCT06CH-1R0A	CAPACITOR	1pF,50V
	C558	QCFA1CZ-105	CAPACITOR	1μF,16V
	C563	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C564	NCS31HJ-330A	CAPACITOR	33pF,50V
	C565	NCS31HJ-820A	CAPACITOR	82pF,50V
	C566	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C567	NCS31HJ-180A	CAPACITOR	18pF,50V
	C568	NCS31HJ-121A	CAPACITOR	120pF,50V
	C571	NCS31HJ-151A	CAPACITOR	150pF,50V
	C572	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C575	NCS31HJ-390A	CAPACITOR	39pF,50V
	C578	NCS31HJ-470A	CAPACITOR	47pF,50V
	C580	NCS31HJ-390A	CAPACITOR	39pF,50V
	C581	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C582	NCS31HJ-120A	CAPACITOR	12pF,50V
	C583	NCS31HJ-180A	CAPACITOR	18pF,50V
	C584	NEA20JM-226N	E CAPACITOR	22μF,6.3V
	C585	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C586	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C588	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C591	YU40688-476N	E CAPACITOR	47μF,5.5V
	C592	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C593	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C594	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C595	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C597	NCS31HJ-100A	CAPACITOR	10pF,50V
	C598	NCS31HJ-220A	CAPACITOR	22pF,50V
	C601	YU40688-476N	E CAPACITOR	47μF,5.5V
	C602	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C603	NEN11HM-105NZ	E CAPACITOR	1μF,50V
	C604	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C606	NEA21HM-105NZ	E CAPACITOR	1μF,50V
	C610	NEA21HM-225NZ	E CAPACITOR	2.2μF,50V
	C612	NCS31HJ-680A	CAPACITOR	68pF,50V
	C618	NCS31HJ-121A	CAPACITOR	120pF,50V
	L1	YU40740-470K	COIL	47μH
	L2	YU41134-331J	COIL	330μH
	L3	PU57620-102J	COIL	1mH
	L4	YU41134-331J	COIL	330μH
	L51	YU41135-470	COIL	47μH
	L52	YU41134-1R2MY	COIL	1.2μH
⚠	L53	PELN0744-P	OSC TRANSFORMER	
	L301	PU58201-330J	COIL	33μH
⚠	L401	YU41716-P	OSC COIL	3.8mH
	L402	YU41135-101KY	COIL	100μH
	L403	PU54710-562	COIL	5.6mH
	L404	YU41135-101KY	COIL	100μH
	L501	YU41134-121J	COIL	120μH
	L502	YU41135-470	COIL	47μH

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	L504	YU41134-150J	COIL	15μH
	L505	YU41134-390J	COIL	39μH
	L506	YU41135-470	COIL	47μH
	L512	YU41134-330JY	COIL	33μH
	L513	YU41134-560JY	COIL	56μH
	L514	YU41134-330JY	COIL	33μH
	L515	YU41134-331J	COIL	330μH
	L516	YU41134-680J	COIL	68μH
	L518	YU41135-470	COIL	47μH
	L519	YU41134-820J	COIL	82μH
	L522	YU41134-270JY	COIL	27μH
	L523	YU41134-390J	COIL	39μH
	L524	YU41134-220J	COIL	22μH
	L525	YU41134-220J	COIL	22μH
	L529	PU57620-102J	COIL	1mH
	L531	YU41135-470	COIL	47μH
	L532	YU41134-101J	COIL	100μH
	L535	YU40740-470K	COIL	47μH
	DL501	PEVB0488	2H DELAY LINE	
⚠	X301	YU40141	CRYSTAL RESONATOR	
⚠	X302	PEVB0443	CRYSTAL RESONATOR	
⚠	X501	PEVB0408	CRYSTAL RESONATOR	
	S301	PESW0605-R	PUSH SWITCH	
	PS301	TLN119	LE DIODE	
	SPC1	YQM30029-86	SPACER	
	WR1	PEWR0682	FPC	
	CN1	YU41354-11-R	CONNECTOR	
	CN2	PEMC0987-036-R	CONNECTOR	
	CN3	PEMC0859-027-X	CONNECTOR	
	CN4	PEMC0884-018-R	CONNECTOR	
	CN5	PEMC0884-018-R	CONNECTOR	
	CN6	YU41356-5-R	CONNECTOR	
	CN7	YU41356-7-R	CONNECTOR	
	CN8	YU41355-13-X	CONNECTOR	
	CN9	YU41356-6-R	CONNECTOR	
	CN10	PEMC0935-011-R	CONNECTOR	
	CN11	YU41356-2-P	CONNECTOR	
	CN13	YU41356-2-P	CONNECTOR	
	CN14	PEMC0880-013-R	CONNECTOR	
	CN16	YU41356-2-P	CONNECTOR	

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REAR BOARD ASSEMBLY <02>

PWBA	YB20680A	REAR BOARD ASSY	
IC11	M5237ML	IC	
IC31	FA7618N-XE	IC	
IC32	XRA10358F	IC	
or	BA10358F	IC	
Q11	2SB1202(ST)	TRANSISTOR	
Q12	2SA1774(RS)	TRANSISTOR	
Q13	DTC143XE	TRANSISTOR	
Q31	2SK1467	FE TRANSISTOR	
Q32	2SK1467	FE TRANSISTOR	
Q33	2SK1467	FE TRANSISTOR	
Q34	2SK1467	FE TRANSISTOR	
Q35	2SK1467	FE TRANSISTOR	
Q36	DTC114EE	TRANSISTOR	

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	Q37	DTA124EE	TRANSISTOR	
	Q38	DTC143XU	TRANSISTOR	
	Q39	DTA143EU	TRANSISTOR	
	Q61	DTC124EU	TRANSISTOR	
	Q62	2SB1202(ST)	TRANSISTOR	
	Q63	2SB1202(ST)	TRANSISTOR	
	D1	MA8068	DIODE	
	D2	MA8068	DIODE	
	D3	MA8068	DIODE	
	D4	MA8068	DIODE	
	D31	SB07-03C-X	SB DIODE	
	D32	SB20-03P-X	SB DIODE	
	D33	SB07-03C-X	SB DIODE	
	D34	SB07-03C-X	SB DIODE	
	D35	MA132WK	DIODE	
	D36	MA132WK	DIODE	
	R1	NRD187J-680N	MLF RESISTOR	68Ω,1/8W
	R2	NRD187J-102N	MLF RESISTOR	1KΩ,1/8W
	R3	NRD187J-102N	MLF RESISTOR	1KΩ,1/8W
	R4	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R5	NRSA63J-561N	RESISTOR	560Ω,1/16W
	R6	NRD187J-221N	MLF RESISTOR	220Ω,1/8W
	R11	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
	R12	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
	R13	NRSA63J-221N	RESISTOR	220Ω,1/16W
	R14	NRSA63J-331N	RESISTOR	330Ω,1/16W
	R15	NRSA63J-123N	RESISTOR	12KΩ,1/16W
	R16	NVP1311-102N	V RESISTOR,SA ADJ	
	R17	NRSA63J-392N	RESISTOR	3.9KΩ,1/16W
	R31	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
	R32	NRSA63J-183N	RESISTOR	18KΩ,1/16W
	R33	NRSA63J-753N	RESISTOR	75KΩ,1/16W
	R34	QRS188K-R33YN	RESISTOR	0.33Ω,1/8W
	R35	QRS188K-R33YN	RESISTOR	0.33Ω,1/8W
	R36	NRSA63J-183N	RESISTOR	18KΩ,1/16W
	R37	NRSA63J-753N	RESISTOR	75KΩ,1/16W
	R38	NRVA63D-333N	RESISTOR	33KΩ,1/16W
	R39	NRVA63D-392N	RESISTOR	3.9KΩ,1/16W
	R40	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
	R41	NRSA63J-183N	RESISTOR	18KΩ,1/16W
	R42	NRSA63J-114N	RESISTOR	110KΩ,1/16W
	R43	QRS188K-R33YN	RESISTOR	0.33Ω,1/8W
	R44	QRS188K-R33YN	RESISTOR	0.33Ω,1/8W
	R45	NRSA63J-183N	RESISTOR	18KΩ,1/16W
	R46	NRSA63J-114N	RESISTOR	110KΩ,1/16W
	R47	NRVA63D-393N	RESISTOR	39KΩ,1/16W
	R48	NRVA63D-392N	RESISTOR	3.9KΩ,1/16W
	R49	NRVA63D-823N	RESISTOR	82KΩ,1/16W
	R50	NRVA63D-223N	RESISTOR	22KΩ,1/16W
	R51	NRSA63J-334N	RESISTOR	330KΩ,1/16W
	R52	NRSA63J-511N	RESISTOR	510Ω,1/16W
	R53	NRVA63D-363N	RESISTOR	36KΩ,1/16W
	R54	NRVA63D-113N	RESISTOR	11KΩ,1/16W
	R55	NRSA63J-334N	RESISTOR	330KΩ,1/16W
	R56	NRSA63J-511N	RESISTOR	510Ω,1/16W
	R57	QRSA08J-100YN	RESISTOR	10Ω,1/10W
	R58	QRSA08J-331YN	RESISTOR	330Ω,1/10W
	R59	QRSA08J-331YN	RESISTOR	330Ω,1/10W
	R61	QRS188J-681YN	RESISTOR	680Ω,1/8W
	R62	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
	B3	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	C1	QER40GM-477	E CAPACITOR	470μF,4.0V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C2	NCS31HJ-101A	CAPACITOR	100pF,50V
	C3	NCS31HJ-101A	CAPACITOR	100pF,50V
	C4	YU40688-476N	E CAPACITOR	47μF,5.5V
	C5	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C6	QCSA1HJ-101	CAPACITOR	100pF,50V
	C11	YU40688-336N	E CAPACITOR	33μF,10V
	C12	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C13	YU40688-476N	E CAPACITOR	47μF,5.5V
	C14	NEE21DM-475RY	E CAPACITOR	4.7μF,20V
	C31	PECA0741-475ML	E CAPACITOR	4.7μF,20V
	C32	PECA0741-475ML	E CAPACITOR	4.7μF,20V
	C33	PECA0874-225ZY	CAPACITOR	2.2μF,16V
	C34	PECA0741-475ML	E CAPACITOR	4.7μF,20V
	C35	PECA0741-475ML	E CAPACITOR	4.7μF,20V
	C36	PECA0741-475ML	E CAPACITOR	4.7μF,20V
	C37	PECA0741-475ML	E CAPACITOR	4.7μF,20V
	C38	QCYA1EK-223	CAPACITOR	0.022μF,25V
	C39	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C40	QCFA1CZ-224	CAPACITOR	0.22μF,16V
	C41	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C42	QCTA1CH-331	CAPACITOR	330pF,16V
	C43	QCF81CZ-474	CAPACITOR	0.47μF,16V
	C44	PECA0874-225ZY	CAPACITOR	2.2μF,16V
	L1	YU40740-470K	COIL	47μH
	L31	PELN0790-100MP	COIL	10μH
	L32	PELN0790-150MP	COIL	15μH
	L33	PELN0325-150KZ	COIL	15μH
	L34	PELN0790-270MP	COIL	27μH
	L35	PELN0325-150KZ	COIL	15μH
	L36	PELN0325-331KZ	COIL	330μH
	S1	PESW0639	SLIDE SWITCH	
	BKT1	YQ31382	BRACKET(PWB)	
	J1	YQ42900-1-1	AV JACK	
	KNB1	YQ42898-1-2	KNOB(LIGHT)	
	SCW1	SPSF2004Z	SCREW	
	TML1	YQ31096-1-2	BATTERY TERMINAL UNIT	
	CN1	YU41356-2-P	CONNECTOR	
	CN2	PEMC0988-036-R	CONNECTOR	
⚠	CP1	ICP-N38	CIRCUIT PROTECTOR	
⚠	CP2	ICP-N38	CIRCUIT PROTECTOR	
⚠	CP3	ICP-N38	CIRCUIT PROTECTOR	
⚠	CP4	ICP-N20	CIRCUIT PROTECTOR	
⚠	CP5	ICP-N20	CIRCUIT PROTECTOR	
⚠	CP6	ICP-N20	CIRCUIT PROTECTOR	

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OPERATION(CAMERA)BOARD ASSEMBLY <03>

PWBA	PEAS2126	OPERATION(CAMERA)BOARD ASSY

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SENSOR BOARD ASSEMBLY <04>

PWBA	YQ31063C-9	SENSOR BOARD ASSY

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IR BOARD ASSEMBLY <05>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	YB20671A-01	IR BOARD ASSY	
D1	SLH-34VC3F	LE DIODE	
D2	GP1U901X	IR DETECT UNIT	
D3	MTZ8.2B-F	ZENER DIODE	
R1	PERE0558	V RESISTOR,EXPOSURE	
S1	YU40708	TACT SWITCH	
SPC1	YQM30029-119	SPACER	
WR1	ML-Y00690A	IR BOARD WIRE	
CN1	PEMC0793-8	CONNECTOR	

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TRIGGER BOARD ASSEMBLY <06>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	YB20644A	TRIGGER BOARD ASSY	
SW1	YU41685	TACT SWITCH	
WR1	ML-Y00688A	TRIGGER BOARD WIRE,(CN1)	

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END SENSOR BRAKET ASSY <08>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	YQ42431A-5	END SENSOR BRACKET ASSY	
BKT1	YQ31055-1-3	END SENSOR BRACKET	

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CCD BOARD ASSEMBLY <11>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	YB20672B-SS	CCD BAORD ASSY	
IC101	HD49803F	IC	
IC102	HA118144AF	IC	
IC103	MN3112SA	IC	
IC104	TK11250M	IC	
Q101	XP5501	TRANSISTOR	
Q102	XP5601	TRANSISTOR	
Q103	2SA1790	TRANSISTOR	
Q104	2SA1790	TRANSISTOR	
Q106	2SC4655	TRANSISTOR	
D101	MA110	DIODE	
D102	MA110	DIODE	
D103	MA8091(LM)	DIODE	
D106	MA143	DIODE	
D107	1SV213	DIODE	
R101	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R102	NRSA63J-823N	RESISTOR	82KΩ,1/16W
R103	NRSA63J-273N	RESISTOR	27KΩ,1/16W
R104	NRSA63J-153N	RESISTOR	15KΩ,1/16W
R105	NRSA63J-432N	RESISTOR	4.3KΩ,1/16W
R106	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R107	NRSA63J-153N	RESISTOR	15KΩ,1/16W
R108	NRSA63J-432N	RESISTOR	4.3KΩ,1/16W
R109	NRSA63J-153N	RESISTOR	15KΩ,1/16W
R110	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R113	NRSA63J-392N	RESISTOR	3.9KΩ,1/16W
R114	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R115	NRSA63J-392N	RESISTOR	3.9KΩ,1/16W
R116	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R117	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R118	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R119	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R125	NRSA63J-153N	RESISTOR	15KΩ,1/16W
R126	NRSA63J-393N	RESISTOR	39KΩ,1/16W
R127	NRSA63J-203N	RESISTOR	20KΩ,1/16W
R128	NRSA63J-223N	RESISTOR	22KΩ,1/16W
R129	NRSA63J-100N	RESISTOR	10Ω,1/16W
R130	NRSA63J-100N	RESISTOR	10Ω,1/16W
R131	NRSA63J-100N	RESISTOR	10Ω,1/16W
R133	NRSA63J-100N	RESISTOR	10Ω,1/16W
R134	NRSA63J-100N	RESISTOR	10Ω,1/16W
R136	NRSA63J-100N	RESISTOR	10Ω,1/16W
R139	NRSA63J-100N	RESISTOR	10Ω,1/16W
R140	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R141	NRSA63J-221N	RESISTOR	220Ω,1/16W
R143	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R144	NRSA63J-223N	RESISTOR	22KΩ,1/16W
R145	NRSA63J-221N	RESISTOR	220Ω,1/16W
R146	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R147	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R148	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R149	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R150	NRSA63J-221N	RESISTOR	220Ω,1/16W
R151	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R152	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R153	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R156	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R157	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R158	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R159	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R160	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R161	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
C101	QCYA1EK-104	CAPACITOR	0.1μF,25V
C102	NEE21VM-225RY	E CAPACITOR	2.2μF,35V
C103	NEE21EM-225RY	E CAPACITOR	2.2μF,25V
C104	NEE21EM-106RZ	E CAPACITOR	10μF,25V
C105	QCYA1EK-104	CAPACITOR	0.1μF,25V
C106	QCYA1EK-104	CAPACITOR	0.1μF,25V
C107	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C108	NEE21DM-475RY	E CAPACITOR	4.7μF,20V
C109	QCFA1CZ-105	CAPACITOR	1μF,16V
C110	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C111	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C112	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C113	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C114	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C115	NCT06CH-101A	CAPACITOR	100pF,50V
C116	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C117	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C118	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C119	NEE21AM-105RY	E CAPACITOR	1μF,10V
C120	NEE21CM-685RY	E CAPACITOR	6.8μF,16V

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C121	QCFA1CZ-474	CAPACITOR	0.47μF,16V
C122	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C123	NEE21CM-685RY	E CAPACITOR	6.8μF,16V
C124	NEE21CM-685RY	E CAPACITOR	6.8μF,16V
C125	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C126	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C127	QCYA1HK-103	CAPACITOR	0.01μF,50V
C128	QCFA1CZ-105	CAPACITOR	1μF,16V
C130	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C131	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C132	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C133	QCFA1CZ-105	CAPACITOR	1μF,16V
C134	NCB31EK-103A	CAPACITOR	0.01μF,25V
C135	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C136	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C137	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C138	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C141	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C142	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C144	NCB31HK-102A	CAPACITOR	0.001μF,50V
C145	YU41582-100X	TRIMMER CAPACITOR,TG PLL	
C146	QCTA1CH-471	CAPACITOR	470pF,16V
C147	NEE21EM-105RY	E CAPACITOR	1μF,25V
C148	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C149	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C150	NEE21AM-105RY	E CAPACITOR	1μF,10V
L101	PELN0704-220KY	COIL	22μH
L102	PELN0704-220KY	COIL	22μH
⚠ X101	PEVB0530-R	CRYSTAL RESONATOR	
CN101	PEMC0988-036-R	CONNECTOR	
CN102	PEMC1040	CONNECTOR	

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CAMERA BOARD ASSEMBLY <12>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	YB10119F-02-SS	CAMERA BOARD ASSY	
IC201	HD49306AF	IC	
IC202	HD49801FB	IC	
IC203	HD49307	IC	
IC204	FA7612N-XE	IC	
IC205	TC7S04F	IC	
IC207	TK11250M	IC	
IC208	TK11247M	IC	
IC209	TK11247M	IC	
IC210	TC7S04F	IC	
IC301	UPD78238GC-235	IC	
IC302	M62354FP	IC	
IC303	S-2927AIF10G-W	IC	
IC304	TC74HC126AFS	IC	
	or MC74HC126ADT	IC	
IC305	TK11650U	IC	
IC306	TK11247M	IC	
IC307	TC7S04F	IC	
IC308	MN12821(QR)	IC	
IC309	TC4S81F	IC	
IC310	JCY0031	IC	
IC401	HD49802FB	IC	
IC402	LM324DB-XE	IC	
IC403	TK11247M	IC	
IC404	TC4S66F	IC	
IC601	XPC17A85VM	IC	
IC602	XPC17A85VM	IC	
IC603	TK11247M	IC	
IC604	LM358DB-XE	IC	
IC610	PEAS2136	SWING DETECTOR(EIS401)	
Q201	2SC4655	TRANSISTOR	
Q202	2SC4655	TRANSISTOR	
Q203	2SC4655	TRANSISTOR	
Q204	DTC144EE	TRANSISTOR	
Q206	XP5601	TRANSISTOR	
Q207	2SC4655	TRANSISTOR	
Q208	2SC4655	TRANSISTOR	
Q209	XP5501	TRANSISTOR	
Q210	2SC4655	TRANSISTOR	
Q211	2SA1790	TRANSISTOR	
Q212	XP5501	TRANSISTOR	
Q213	XP4312	TRANSISTOR	
Q214	XP5601	TRANSISTOR	
Q215	2SB1124(ST)	TRANSISTOR	
Q301	XP5601	TRANSISTOR	
Q601	XP1216	TRANSISTOR	
Q602	XP1215	TRANSISTOR	
Q603	2SC4655	TRANSISTOR	
D201	MA110	DIODE	
D202	1SV213	DIODE	
D203	MA729	DIODE	
D204	MA729	DIODE	
D205	MA729	DIODE	
R201	NRSA63J-392N	RESISTOR	3.9KΩ,1/16W
R202	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R203	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R204	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R205	NRSA63J-470N	RESISTOR	47Ω,1/16W
R206	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
R207	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R208	NRSA63J-152N	RESISTOR	1.5KΩ,1/16W
R209	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R210	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R211	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R212	NRSA63J-560N	RESISTOR	56Ω,1/16W
R213	NRSA63J-221N	RESISTOR	220Ω,1/16W
R214	NRSA63J-221N	RESISTOR	220Ω,1/16W
R218	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R219	NRSA63J-681N	RESISTOR	680Ω,1/16W
R220	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R221	NRSA63J-223N	RESISTOR	22KΩ,1/16W
R222	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R223	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R224	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R225	NRSA63J-122N	RESISTOR	1.2KΩ,1/16W
R228	NRSA63J-221N	RESISTOR	220Ω,1/16W
R229	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R230	NRSA63J-392N	RESISTOR	3.9KΩ,1/16W
R231	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R233	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
R234	NRSA63J-750N	RESISTOR	75Ω,1/16W
R235	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R236	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R237	NRSA63J-202N	RESISTOR	2KΩ,1/16W
R238	NRSA63J-202N	RESISTOR	2KΩ,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R239	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R240	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R241	NRSA63J-562N	RESISTOR	5.6KΩ,1/16W
R242	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R243	NRSA63J-751N	RESISTOR	750Ω,1/16W
R244	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
R245	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R246	NRSA63J-750N	RESISTOR	75Ω,1/16W
R247	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R248	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R249	NRSA63J-821N	RESISTOR	820Ω,1/16W
R250	NRSA63J-821N	RESISTOR	820Ω,1/16W
R251	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R252	NRSA63J-182N	RESISTOR	1.8KΩ,1/16W
R253	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R254	NRSA63J-392N	RESISTOR	3.9KΩ,1/16W
R255	NRSA63J-562N	RESISTOR	5.6KΩ,1/16W
R256	NRSA63J-563N	RESISTOR	56KΩ,1/16W
R257	NRSA63J-242N	RESISTOR	2.4KΩ,1/16W
R258	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
R259	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R261	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R262	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R263	NRSA63J-303N	RESISTOR	30KΩ,1/16W
R264	NRSA63J-471N	RESISTOR	470Ω,1/16W
R265	NRSA63J-471N	RESISTOR	470Ω,1/16W
R266	NRSA63J-303N	RESISTOR	30KΩ,1/16W
R267	NRSA63J-152N	RESISTOR	1.5KΩ,1/16W
R268	NVP1202-681N	V RESISTOR,REG 9V	
R269	NRSA63J-101N	RESISTOR	100Ω,1/16W
R270	NRSA63J-564N	RESISTOR	560KΩ,1/16W
R271	NRSA63J-333N	RESISTOR	33KΩ,1/16W
R272	NVP1202-103N	V RESISTOR,OSC	
R273	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R274	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R275	NRSA63J-204N	RESISTOR	200KΩ,1/16W
R276	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R277	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R278	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R279	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R280	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R301	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R302	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
R303	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
R304	NRSA63J-101N	RESISTOR	100Ω,1/16W
R305	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
R306	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
R307	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R308	NRSA63J-334N	RESISTOR	330KΩ,1/16W
R309	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R310	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R311	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R312	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R313	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R314	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R315	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R316	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R317	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R318	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R319	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R320	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R321	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R322	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R323	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R324	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R325	NRSA63J-393N	RESISTOR	39KΩ,1/16W
R326	NRSA63J-393N	RESISTOR	39KΩ,1/16W
R327	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R328	NRSA63J-222N	RESISTOR	2.2KΩ,1/16W
R329	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R330	NRSA63J-393N	RESISTOR	39KΩ,1/16W
R331	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R332	NRSA63J-393N	RESISTOR	39KΩ,1/16W
R333	NRSA63J-393N	RESISTOR	39KΩ,1/16W
R334	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R335	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R336	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R337	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R338	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R339	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R340	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R341	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R342	NRSA63J-393N	RESISTOR	39KΩ,1/16W
R343	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R344	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R345	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R346	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R347	NRSA63J-223N	RESISTOR	22KΩ,1/16W
R348	NRSA63J-223N	RESISTOR	22KΩ,1/16W
R349	NRSA63J-223N	RESISTOR	22KΩ,1/16W
R350	NRSA63J-223N	RESISTOR	22KΩ,1/16W
R351	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R352	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R353	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R354	NRSA63J-333N	RESISTOR	33KΩ,1/16W
R355	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R356	NRSA63J-104N	RESISTOR	100KΩ,1/16W
R357	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R358	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R365	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R367	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R368	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R369	NRSA63J-221N	RESISTOR	220Ω,1/16W
R370	NRSA63J-221N	RESISTOR	220Ω,1/16W
R371	NRSA63J-221N	RESISTOR	220Ω,1/16W
R372	NRSA63J-221N	RESISTOR	220Ω,1/16W
R373	NRSA63J-221N	RESISTOR	220Ω,1/16W
R374	NRSA63J-221N	RESISTOR	220Ω,1/16W
R376	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R377	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R378	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R379	NRSA63J-472N	RESISTOR	4.7KΩ,1/16W
R401	NRSA63J-221N	RESISTOR	220Ω,1/16W
R402	NRSA63J-221N	RESISTOR	220Ω,1/16W
R405	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R406	NRSA63J-221N	RESISTOR	220Ω,1/16W
R407	NRSA63J-221N	RESISTOR	220Ω,1/16W
R408	NRSA63J-221N	RESISTOR	220Ω,1/16W
R409	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R410	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R411	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R412	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R413	NRSA63J-473N	RESISTOR	47KΩ,1/16W
R414	NRSA63J-473N	RESISTOR	47KΩ,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R415	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R416	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R417	NRSA63J-683N	RESISTOR	68KΩ,1/16W
R418	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R419	NRSA63J-333N	RESISTOR	33KΩ,1/16W
R420	NRSA63J-333N	RESISTOR	33KΩ,1/16W
R421	NRSA63J-683N	RESISTOR	68KΩ,1/16W
R423	NRSA63J-333N	RESISTOR	33KΩ,1/16W
R424	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R425	NRSA63J-221N	RESISTOR	220Ω,1/16W
R426	NRSA63J-221N	RESISTOR	220Ω,1/16W
R427	NRSA63J-221N	RESISTOR	220Ω,1/16W
R428	NRSA63J-221N	RESISTOR	220Ω,1/16W
R601	NRSA63J-331N	RESISTOR	330Ω,1/16W
R602	NRSA63J-331N	RESISTOR	330Ω,1/16W
R604	NRSA63J-3R3N	RESISTOR	3.3Ω,1/16W
R605	NRSA63J-3R3N	RESISTOR	3.3Ω,1/16W
R606	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
R607	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R608	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
R609	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R610	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R611	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
R612	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R613	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
R614	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R615	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R616	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R617	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R618	NRSA63J-683N	RESISTOR	68KΩ,1/16W
R619	NRSA63J-683N	RESISTOR	68KΩ,1/16W
R620	NRSA63J-153N	RESISTOR	15KΩ,1/16W
R621	NRSA63J-331N	RESISTOR	330Ω,1/16W
R622	NRSA63J-103N	RESISTOR	10KΩ,1/16W
RA201	PERE0557-221JY	NETWORK RESISTOR	220Ω
RA202	PERE0557-221JY	NETWORK RESISTOR	220Ω
RA203	PERE0557-221JY	NETWORK RESISTOR	220Ω
RA204	YU40172-221NY	NETWORK RESISTOR	220Ω
RA205	YU40172-221NY	NETWORK RESISTOR	220Ω
RA206	PERE0557-471JY	NETWORK RESISTOR	470Ω
RA207	PERE0557-471JY	NETWORK RESISTOR	470Ω
RA208	PERE0557-471JY	NETWORK RESISTOR	470Ω
RA209	PERE0557-471JY	NETWORK RESISTOR	470Ω
RA210	YU40172-471NY	NETWORK RESISTOR	470Ω
RA211	PERE0557-221JY	NETWORK RESISTOR	220Ω
RA212	PERE0557-221JY	NETWORK RESISTOR	220Ω
RA213	PERE0557-221JY	NETWORK RESISTOR	220Ω
RA214	PERE0557-221JY	NETWORK RESISTOR	220Ω
RA215	PERE0557-221JY	NETWORK RESISTOR	220Ω
RA216	PERE0557-221JY	NETWORK RESISTOR	220Ω
C201	QCFA1CZ-105	CAPACITOR	1μF,16V
C202	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C203	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C204	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C207	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C208	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C209	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C210	QCYA1EK-104	CAPACITOR	0.1μF,25V
C211	QCYA1EK-104	CAPACITOR	0.1μF,25V
C212	QCYA1EK-104	CAPACITOR	0.1μF,25V
C213	NEE21AM-106RY	E CAPACITOR	10μF,10V
C214	QCYA1EK-104	CAPACITOR	0.1μF,25V

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C215	QCYA1EK-104	CAPACITOR	0.1μF,25V
C216	NEE21AM-106RY	E CAPACITOR	10μF,10V
C217	QCYA1EK-104	CAPACITOR	0.1μF,25V
C218	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C220	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C221	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C222	QCFA1CZ-105	CAPACITOR	1μF,16V
C223	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C224	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C226	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C228	NCT06CH-220A	CAPACITOR	22pF,50V
C229	PECA0795-400C-X	TRIMMER CAPACITOR,SYSTEM CLK	
C230	NCT06CH-100A	CAPACITOR	10pF,50V
C231	NEE21CM-225RY	E CAPACITOR	2.2μF,16V
C232	NCT06CH-471A	CAPACITOR	470pF,50V
C233	NCT06CH-101A	CAPACITOR	100pF,50V
C235	NCT06CH-100A	CAPACITOR	10pF,50V
C236	PECA0795-100C-X	TRIMMER CAPACITOR,PAL PLL	
C237	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C238	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C239	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C240	QCFA1CZ-105	CAPACITOR	1μF,16V
C241	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C242	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C243	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C244	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C245	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C246	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C247	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C248	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C249	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C250	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C251	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C252	QCFA1CZ-105	CAPACITOR	1μF,16V
C253	QCYA1EK-104	CAPACITOR	0.1μF,25V
C254	QCYA1EK-104	CAPACITOR	0.1μF,25V
C255	QCFA1CZ-105	CAPACITOR	1μF,16V
C256	NCB31EK-103A	CAPACITOR	0.01μF,25V
C257	QCFA1CZ-105	CAPACITOR	1μF,16V
C258	NEE21CM-225RY	E CAPACITOR	2.2μF,16V
C259	NEE21AM-476RZ	E CAPACITOR	47μF,10V
C260	NCB31HK-102A	CAPACITOR	0.001μF,50V
C261	QCYA1EK-104	CAPACITOR	0.1μF,25V
C262	NEE21CM-225RY	E CAPACITOR	2.2μF,16V
C263	NEE21VM-225RY	E CAPACITOR	2.2μF,35V
C264	NEE21DM-475RY	E CAPACITOR	4.7μF,20V
C265	QCFA1CZ-105	CAPACITOR	1μF,16V
C266	NEE21VM-225RY	E CAPACITOR	2.2μF,35V
C267	NEE21CM-225RY	E CAPACITOR	2.2μF,16V
C268	NEE21CM-225RY	E CAPACITOR	2.2μF,16V
C269	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C270	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C271	NCB31EK-103A	CAPACITOR	0.01μF,25V
C272	NCT06CH-471A	CAPACITOR	470pF,50V
C273	NEE20JM-475RY	E CAPACITOR	4.7μF,6.3V
C274	NCT06CH-5R0A	CAPACITOR	5pF,50V
C275	NCT06CH-5R0A	CAPACITOR	5pF,50V
C276	QCFA1CZ-224	CAPACITOR	0.22μF,16V
C301	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C302	YU41415-J106AW	TANTAL CAPACITOR	10μF,6.3V
C303	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C304	QCFA1CZ-105	CAPACITOR	1μF,16V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C305	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C306	YU41415-J106AW	TANTAL CAPACITOR	10µF,6.3V
	C307	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C308	QCFA1CZ-105	CAPACITOR	1µF,16V
	C309	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C310	YU41415-J106AW	TANTAL CAPACITOR	10µF,6.3V
	C311	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C312	NEE21AM-106RY	E CAPACITOR	10µF,10V
	C313	YU41415-J106AW	TANTAL CAPACITOR	10µF,6.3V
	C314	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C315	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C401	QCFA1CZ-105	CAPACITOR	1µF,16V
	C402	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C403	YU41415-J106AW	TANTAL CAPACITOR	10µF,6.3V
	C404	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C405	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C406	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C407	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C408	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C409	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C410	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C411	NEE21AM-476RZ	E CAPACITOR	47µF,10V
	C412	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C413	NEE21AM-476RZ	E CAPACITOR	47µF,10V
	C414	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C415	NCT06CH-101A	CAPACITOR	100pF,50V
	C416	NEN10JM-106NZ	E CAPACITOR	10µF,6.3V
	C417	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C418	NCB31HK-682A	CAPACITOR	0.0068µF,50V
	C419	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C420	QCYA1EK-473	CAPACITOR	0.047µF,25V
	C421	YU41415-J106AW	TANTAL CAPACITOR	10µF,6.3V
	C422	NEE20JM-475RY	E CAPACITOR	4.7µF,6.3V
	C423	NEE21AM-476RZ	E CAPACITOR	47µF,10V
	C601	YU41415-J106AW	TANTAL CAPACITOR	10µF,6.3V
	C602	QCFA1CZ-105	CAPACITOR	1µF,16V
	C603	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C604	YU41415-J106AW	TANTAL CAPACITOR	10µF,6.3V
	C605	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C606	NCB31EK-332A	CAPACITOR	0.0033µF,25V
	C607	NCB31HK-272A	CAPACITOR	0.0027µF,50V
	C608	NCB31HK-272A	CAPACITOR	0.0027µF,50V
	C609	NCB31HK-272A	CAPACITOR	0.0027µF,50V
	C610	NEE21AM-106RY	E CAPACITOR	10µF,10V
	C611	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C612	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C615	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C616	NCB31EK-332A	CAPACITOR	0.0033µF,25V
	C617	NCB31HK-272A	CAPACITOR	0.0027µF,50V
	C618	NCB31HK-272A	CAPACITOR	0.0027µF,50V
	C619	NCB31HK-272A	CAPACITOR	0.0027µF,50V
	C620	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C621	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C624	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C625	YU41415-J106AW	TANTAL CAPACITOR	10µF,6.3V
	C626	NCB31CK-273A	CAPACITOR	0.027µF,16V
	C627	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C628	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C629	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C630	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	L201	PELN0704-220KY	COIL	22µH
	L204	YU40740-220K	COIL	22µH

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	L205	PELN0704-220KY	COIL	22µH
	L206	YU40740-330KY	COIL	33µH
	L207	PELN0704-330KY	COIL	33µH
	L302	PELN0704-220KY	COIL	22µH
	L303	PELN0704-220KY	COIL	22µH
	L401	PELN0704-220KY	COIL	22µH
	L402	PELN0704-220KY	COIL	22µH
	L403	PELN0704-330KY	COIL	33µH
	L601	PELN0704-220KY	COIL	22µH
	L602	YU40740-220K	COIL	22µH
	L603	PELN0704-220KY	COIL	22µH
	LPF201	PELN0874-Z	LOW PASS FILTER	
	BPF201	PELN0907-Z	BAND PASS FILTER	
⚠	X201	PEVB0416-R	CRYSTAL RESONATOR	
⚠	X202	PEVB0529-R	CRYSTAL RESONATOR	
⚠	X301	PEVB0423-P	CRYSTAL RESONATOR	
	T201	PELN0912-P	COIL	
	WR1	ML-Y00691A	EIS WIRE	
	CN201	PEMC0987-036-R	CONNECTOR	
	CN202	PEWR0684	FLAT WIRE	
	CN203	PEMC0855-027-X	CONNECTOR	
	CN204	YU41356-3-P	CONNECTOR	
	CN205	YU41356-5-R	CONNECTOR	
	CN206	PEMC0880-020-R	CONNECTOR	

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AF BOARD ASSEMBLY <13>

REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	YB20673A-01-SS	AF BOARD ASSY	
IC501	JCY0007-1-XE	IC	
IC502	TK11250M	IC	
Q501	DTC144EU	TRANSISTOR	
R502	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R504	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R505	NRSA63J-223N	RESISTOR	22KΩ,1/16W
R506	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R507	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R508	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R509	NRSA63J-333N	RESISTOR	33KΩ,1/16W
R510	NRSA63J-272N	RESISTOR	2.7KΩ,1/16W
R511	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R512	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R513	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R514	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R515	NRSA63J-471N	RESISTOR	470Ω,1/16W
R516	NRSA63J-561N	RESISTOR	560Ω,1/16W
R517	NRSA63J-102N	RESISTOR	1KΩ,1/16W
R518	NRSA63J-151N	RESISTOR	150Ω,1/16W
R519	NRSA63J-681N	RESISTOR	680Ω,1/16W
R520	NRSA63J-821N	RESISTOR	820Ω,1/16W
R521	NRSA63J-682N	RESISTOR	6.8KΩ,1/16W
R522	NRSA63J-272N	RESISTOR	2.7KΩ,1/16W
R523	NRSA63J-122N	RESISTOR	1.2KΩ,1/16W
R526	NRSA63J-103N	RESISTOR	10KΩ,1/16W
R527	NRSA63J-474N	RESISTOR	470KΩ,1/16W
R528	NRSA63J-153N	RESISTOR	15KΩ,1/16W
R529	NRSA63J-153N	RESISTOR	15KΩ,1/16W
R530	NRSA63J-183N	RESISTOR	18KΩ,1/16W

#△	REF No.	PART No.	PART NAME, DESCRIPTION	
	R531	NRSA63J-622N	RESISTOR	6.2KΩ,1/16W
	R532	NRSA63J-563N	RESISTOR	56KΩ,1/16W
	R533	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R534	NRSA63J-683N	RESISTOR	68KΩ,1/16W
	R537	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	C501	QCFA1CZ-105	CAPACITOR	1µF,16V
	C502	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C503	YU41415-J106AW	TANTAL CAPACITOR	10µF,6.3V
	C504	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C505	NCB31CK-473A	CAPACITOR	0.047µF,16V
	C506	NCT06CH-151A	CAPACITOR	150pF,50V
	C507	NCT06CH-121A	CAPACITOR	120pF,50V
	C508	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C509	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C510	NCB31CK-273A	CAPACITOR	0.027µF,16V
	C511	NCB31CK-273A	CAPACITOR	0.027µF,16V
	C512	NCT06CH-101A	CAPACITOR	100pF,50V
	C513	NCB31CK-273A	CAPACITOR	0.027µF,16V
	C514	NCT06CH-101A	CAPACITOR	100pF,50V
	C515	NCB31CK-473A	CAPACITOR	0.047µF,16V
	C516	NCB31EK-223A	CAPACITOR	0.022µF,25V
	C517	NCB31CK-473A	CAPACITOR	0.047µF,16V
	C518	NCB31EK-223A	CAPACITOR	0.022µF,25V
	C519	NCB31CK-473A	CAPACITOR	0.047µF,16V
	C520	NCB31EK-223A	CAPACITOR	0.022µF,25V
	C521	NCT06CH-101A	CAPACITOR	100pF,50V
	C522	NCB31CK-473A	CAPACITOR	0.047µF,16V
	C523	NEE21CM-685RY	E CAPACITOR	6.8µF,16V
	C524	NCB31CK-473A	CAPACITOR	0.047µF,16V
	C526	NCB31EK-223A	CAPACITOR	0.022µF,25V
	C527	NCT06CH-330A	CAPACITOR	33pF,50V
	C528	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C529	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C530	NCT06CH-220A	CAPACITOR	22pF,50V
	C541	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	BPF501	PELN0634-R	BAND PASS FILTER	
	BPF502	PELN0636-Z	BAND PASS FILTER	
	BPF503	PELN0703-Z	BAND PASS FILTER	
	WR1	PEWR0694	FPC	
	CN501	PEMC0859-020-R	CONNECTOR	

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EIS BOARD ASSEMBLY <14>

	PWBA	YB20674B-01-SS	EIS BOARD ASSY	
	IC451	TC4S66F	IC	
	IC452	LM324DB-XE	IC	
	IC453	TK11247M	IC	
	IC460	PEAS2138	SWING DETECTOR(EIS451)	
	R451	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R452	NRSA63J-473N	RESISTOR	47KΩ,1/16W
	R453	NRSA63J-473N	RESISTOR	47KΩ,1/16W
	R454	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R455	NRSA63J-105N	RESISTOR	1MΩ,1/16W
	R456	NRSA63J-683N	RESISTOR	68KΩ,1/16W
	R457	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R458	NRSA63J-333N	RESISTOR	33KΩ,1/16W
	R459	NRSA63J-333N	RESISTOR	33KΩ,1/16W
	R460	NRSA63J-683N	RESISTOR	68KΩ,1/16W
	R461	NRSA63J-333N	RESISTOR	33KΩ,1/16W
	C451	QCFA1CZ-105	CAPACITOR	1µF,16V
	C452	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C453	YU41415-J106AW	TANTAL CAPACITOR	10µF,6.3V
	C454	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C455	NEE20JM-476RZ	E CAPACITOR	47µF,6.3V
	C456	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C457	NCT06CH-101A	CAPACITOR	100pF,50V
	C458	NEN10JM-106NZ	E CAPACITOR	10µF,6.3V
	C459	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C460	NCB31HK-682A	CAPACITOR	0.0068µF,50V
	C461	QCYA1EK-104	CAPACITOR	0.1µF,25V
	C462	QCYA1EK-473	CAPACITOR	0.047µF,25V
	C463	NEE21CM-105RY	E CAPACITOR	1µF,16V
	C464	NEE20JM-475RY	E CAPACITOR	4.7µF,6.3V
	L451	PELN0704-220KY	COIL	22µH
	L452	PELN0704-220KY	COIL	22µH
	CN451	YU41356-5-R	CONNECTOR	

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UPPER DRUM BOARD <40>

	PWB	YDM3073-1-1	BOARD(UPPER DRUM),EK
	PWB	YDM3073-2-1	BOARD(UPPER DRUM),EG

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E.VF BOARD ASSEMBLY <50>

△	PWBA	YQ31392-700	E.VF BOARD ASSY,INCL.YQ31392-527	
△	PWBA	YQ31392-800	E.VF BOARD ASSY,INCL.YQ31392-528	
△	IC1	AN2514S	IC	
△	IC2	TK11205	IC	
△	Q1	2SK1473	FE TRANSISTOR,TR1	
△		or 2SK1485	FE TRANSISTOR	
	DT1	IMT1	TRANSISTOR	
		or XN4401	TRANSISTOR	
	D01	1SS302	DIODE	
	D02	RLS245	DIODE	
	R1	NRSA63J-6R8N	RESISTOR	6.8Ω,1/16W
	R2	NRSA63J-132N	RESISTOR	1.3KΩ,1/16W
	R3	YQ31304-530	RESISTOR	7.5Ω
	R4	YQ31304-531	RESISTOR	41.2KΩ,1/16W
	R5	YQ31304-532	RESISTOR	160KΩ
	R6	NRSA63J-102N	RESISTOR	1KΩ,1/16W
	R7	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R8	NRSA63J-113N	RESISTOR	11KΩ,1/16W
	R9	NRSA63J-242N	RESISTOR	2.4KΩ,1/16W
	VR1	YQ31392-524	V RESISTOR,V.SIZE	
	VR2	YQ30723-202	V RESISTOR,H.HOLD	
	VR3	YQ31392-525	V RESISTOR,CONTRAST	
	VR4	YQ31392-526	V RESISTOR,BRIGHT	
	R10	NRSA08J-105N	RESISTOR	1MΩ,1/10W
	R11	NRSA63J-104N	RESISTOR	100KΩ,1/16W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R12	NRSA63J-220N	RESISTOR	22Ω,1/16W
	R13	NRSA63J-103N	RESISTOR	10KΩ,1/16W
	R14	NRSA63J-511N	RESISTOR	510Ω,1/16W
	R15	NRSA63J-561N	RESISTOR	560Ω,1/16W
	R16	NRSA63J-512N	RESISTOR	5.1KΩ,1/16W
	R17	NRSA63J-272N	RESISTOR	2.7KΩ,1/16W
	R18	NRSA63J-512N	RESISTOR	5.1KΩ,1/16W
	R19	NRSA63J-123N	RESISTOR	12KΩ,1/16W
	R20	NRSA63J-102N	RESISTOR	1KΩ,1/16W
	R21	NRSA63J-820N	RESISTOR	82Ω,1/16W
	R22	NRSA63J-124N	RESISTOR	120KΩ,1/16W
	R23	QRSA08J-335YN	RESISTOR	3.3MΩ,1/10W
	R24	QRSA08J-335YN	RESISTOR	3.3MΩ,1/10W
	R25	NRSA63J-332N	RESISTOR	3.3KΩ,1/16W
	R26	NRSA63J-0R0AY	RESISTOR	0Ω,1/16W
	C01	YQ31304-502	CAPACITOR	0.1μF,35V
	C02	YQ31392-501	CAPACITOR	100pF
	C03	YQ31392-502	CAPACITOR	1μF
	C04	YQ31392-503	CAPACITOR	0.022μF
	C05	YQ31392-504	T CAPACITOR	3.3μF,10V
	C06	YQ31392-502	CAPACITOR	1μF
	C07	YQ31392-506	CAPACITOR	0.1μF
	C08	YQ31392-507	CAPACITOR	10μF,16V
	C09	YQ31392-508	CAPACITOR	68μF,6.3V
	C10	YQ31392-509	CAPACITOR	47μF,16V
	C11	YQ31392-510	E CAPACITOR	10μF,16V
	C12	YQ31392-511	E CAPACITOR	3.3μF,50V
	C13	YQ31392-512	CAPACITOR	270pF
	C14	YQ31392-513	CAPACITOR	0.047μF
	C15	YQ31392-514	T CAPACITOR	2.2μF,35V
	C16	YQ31392-515	F CAPACITOR	3000pF
	C17	YQ31392-520	CAPACITOR	1500pF
	C18	YQ31392-521	E CAPACITOR	100μF,10V
	L01	YQ31392-523	COIL	
	TH1	YQ31392-522	THERMISTOR	
⚠	DY1	YQ31392-529	DEF YOKE	
⚠	FBT1	YQ31392-528	FLY BACK TRANS,YQ31392-800 ONLY	
⚠	FBT1	YQ31392-527	FLY BACK TRANS,YQ31392-700 ONLY	
	HLC1	YQ31178-519	L.COIL	

SECTON 6
TECHNICAL INFORMATION

6.1 EMERGENCY DISPLAY

Whenever some abnormal signal is supplied to mechacon CPU, the POWER LED will be flickered and an error number (E 05, for example) displayed on the electronic view finder.

E. VF DISPLAY	Symptom	Mode when observed	Resulting mode
E 06	CAPSTAN FG input absent	EDIT	STOP
E 05	PB CTL PULSE input absent	EDIT	STOP
E 04	DRUM FF input absent	DRUM rotation	STOP
E 03	SUPPLY REEL FG input absent	REC, PLAY, SEARCH, FF	STOP
E 02	Mode control motor rotates for more than 10 sec, without shift to next mode.	UNLOADING	Mode continues
E 01	Mode control motor rotates for more than 10 sec, without shift to next mode.	LOADING	Mode continues

Emergency mode	: Indication for 5 minutes, then power OFF
Port states	: Same as Stop mode
Effective key	: POWER
Shifted mode	: Power OFF

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